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S. L. RUBINŠTEJN AND THE PHILOSOPHICAL FOUNDATIONS OF SOVIET PSYCHOLOGY

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TO MY FATHER AND MOTHER

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LIST OF ABBREVIATIONS

AN	Akademija nauk [Academy of Sciences: of the USSR unless otherwise specified]
BSE	*Bol'šaja sovetskaja énciklopedija* [Large Soviet Encyclopaedia]
FN	*Naučnye doklady vysšej školy, Filosofskie nauki* [Scientific Reports of the Higher Schools, Philosophical Sciences]
IF	Institut filosofii [Institute of Philosophy: of the Academy of Sciences of the USSR]
Izd.	Izdatel'stvo [Publishing House]
kng.	kniga [book]
L.	Leningrad
LGPI	Leningradskij gosudarstvennyj pedagogičeskij institut [Leningrad State Pedagogical Institute]
M.	Moskva
MGU	Moskovskij gosudarstvennyj universitet [Moscow State University]
MSE	*Malaja sovetskaja énciklopedija* [Small Soviet Encyclopaedia]
PZM	*Pod znamenem marksizma* [Under the Banner of Marxism]
red.	redaktor [editor]
RSFSR	Rossijskaja Sovetskaja Federativnaja Socialističeskaja Respublika [Russian Soviet Federative Socialist Republic]
Ss.	Sbornik statej [collection of articles]
Sov. Ped.	*Sovetskaja pedagogike* [Soviet Pedagogy]
VF	*Voprosy filosofii* [Questions of Philosophy]
VP	*Voprosy psixologii* [Questions of Psychology]
vyp.	vypusk [part, number]

INTRODUCTION

This work is intended as an introduction to the study of Soviet psychology. In it we have tried to present the main lines of Soviet psychological theory, in particular, the philosophical principles on which that theory is founded.

There are surprisingly few books in English on Soviet psychology, or, indeed, in any Western European language. The works that exist usually take the form of symposia or are collections of articles translated from Soviet periodicals. The most important of these are *Psychology in the Soviet Union* (ed. by Brian Simon), *Recent Soviet Psychology* (ed. by Neil O'Connor) and *Soviet Psychology, A Symposium* (ed. by Ralf Winn). Raymond Bauer has also edited an interesting symposium entitled *Some Views on Soviet Psychology*.

Only two systematic studies of Soviet psychology have been published to date: Joseph Wortis' *Soviet Psychiatry* and Raymond Bauer's *The New Man in Soviet Psychology*. Both are valuable introductions to Soviet psychology; Bauer's book, in particular, gives a good account of the debates on psychological theory in the Soviet Union in the nineteen-twenties and -thirties. Both, however, are somewhat out of date. There are also a number of interesting articles written by Ivan D. London and Gregory Razran, which give general surveys of particular periods or aspects of Soviet psychology. These have been listed in the bibliography.

However, none of the works mentioned deal specifically with philosophical issues. In fact the conviction is widespread among psychologists in the West that philosophical problems lie outside the domain of the professional psychologist. Consequently, one finds a general underestimation and frequently a profound misunderstanding of the philosophical aspects of Soviet psychology.

We are firmly convinced that a complete understanding of Soviet psychology is impossible without an appreciation of the philosophical principles on which it is founded. As Gregory Razran has remarked: "Unlike most of his American colleagues, the Soviet psychologist is really not just a laboratory experimentalist, a fact finder who finds facts to be

used somewhere, by someone, sometime. He is above all a scientific worker who is to further and promote the cause of Socialist construction. He has first principles with which he starts, objectives towards which he strives, and selects his hypotheses, facts and conclusions accordingly" ('Psychology in the USSR', *Journal of Philosophy* **32**, 1935, 19). The point at issue is not whether philosophical issues are foreign to psychology but whether Soviet psychology can be fully understood apart from such issues. We believe that it cannot.

The purpose of this work is to discuss the philosophical foundations of Soviet psychological theory. The treatment of this subject is more expository than critical, though the task of giving a general account of Soviet psychological theory necessarily involves a certain element of evaluation. The method adopted is somewhat unusual. Rather than attempt to give an overall account of the philosophical aspects of Soviet psychological theory, we have chosen instead to study these questions as they are discussed in the works of one particular Soviet writer.

The reasons for choosing this method are two-fold. To attempt to give an overall account of Soviet psychological theory would require documentation which, particularly for the earlier period, is not readily available. In the second place, to attempt to give such an account without a preliminary study of the works of the major Soviet writers on psychological theory would certainly lead to many unjustified generalizations.

S. L. Rubinštejn has been chosen as the subject for this study chiefly because he was, until his death in 1960, the most influential writer on psychological theory in the Soviet Union. His works, moreover, cover all the major aspects of Soviet psychological theory, and though it is doubtful if he can be called a 'great' philosopher, his writings manifest a depth and originality of thought impressive by any standard.

Four chapters have been devoted to the study of Rubinštejn's thought. The better to situate his work, the actual study of Rubinštejn's thought has been prefaced by a short section, consisting of two chapters, on the nature and history of Soviet psychology. The first chapter deals with the sources of Soviet psychological theory, while the second is an abbreviated account of the development of psychological theory in the Soviet Union.

A list of the works of Rubinštejn is given at the end of this work, together with a select bibliography of Soviet works on psychology and of other non-Russian works consulted.

CHAPTER I

THE SOURCES OF SOVIET PSYCHOLOGICAL THEORY

A. INTRODUCTION

Soviet psychology is heir to two independent traditions: the philosophical principles of Marxism-Leninism and the scientific traditions of pre-Revolutionary, Russian physiological psychology, particularly as evolved and exemplified in the writings of Ivan Petrovič Pavlov. Official Soviet literature recognizes psychology's indebtedness to these two traditions, ascribing to the former the general philosophical foundation for psychology, while the latter is said to provide the scientific methodology.[1]

Acceptance of Marxism-Leninism as the philosophical foundation of Soviet psychology was one of the results of the philosophical discussions of the nineteen-twenties, while adherence to the teaching and methods of Pavlov has only been a necessary characteristic of Soviet psychology since the Pavlov Conference of 1950.

The significance of these two traditions is that they commit the Soviet psychologist to a body of scientific and philosophical principles which forms the obligatory framework for all his investigations. What interests us here is not the direction which these traditions have given to experimental work in the Soviet Union, but rather their influence on the basic philosophical problems of psychology, particularly that of the relation of the psyche to the material world. Our task in this chapter will be to examine the content of these two traditions. The history of their assimilation and elaboration within Soviet psychology will be treated in Chapter II.

Historical Background

Though distinct, these traditions have common roots in the history of philosophy going back to the philosophy of the 17th century.[2] It is however incorrect to present these two traditions – as Soviet writers tend to present them – as continuing a unified materialist tradition which has its beginnings in the philosophical and scientific thought of the 17th century.

In the first place, materialism was not a significant element in 17th-century thought. Hobbes, in fact, was the only explicit materialist among the philosophers of that era. What was important in the philosophy of the 17th century and what determined the subsequent course of European philosophy was not materialism but *dualism*. The conception of man as a psycho-physical unity, which had been the centre of European philosophy of man since Aristotle, was replaced in the philosophy of Descartes by the notion of man as the meeting place of two distinct and even disparate substances.

In place of the Aristotelian concept of body and soul as forming one substance, Descartes proposed a dualism of mind and body – of *res cogitans* and *res extensa*.[3] Psychic events belong to the realm of the *res cogitans*[4], somatic events to that of the *res extensa*. The human body and the brutes are machines, subject like any machine to the laws of mechanical motion.[5]

The philosophers who came after Descartes were faced with the problem of reestablishing the unity of man. Materialism as it appeared in the 18th and 19th centuries was conceived as a solution to the problem of dualism. The French materialists of the 18th century attempted to present a unified conception of man by extending Descartes' mechanism to mind. If the workings of the body could be explained mechanically why not psychic events as well? For example Julien Offrai de La Mettrie (1709–51) in his *L'Homme Machine* (1745) applied Descartes' mechanical conception of animals to man: man is no less a machine than the brutes and mental events are nothing more than mechanical movements in the brain. Later the physician Pierre Jean Cabanis (1757–1808) in *Les Rapports du Physique et du Moral de l'Homme* (1802), a long discussion of the various influences – age, sex, climate, etc. – which condition the nature of man, concluded that psychic life is entirely determined by the body and its accompanying conditions, and that the soul as a vital principle is superfluous.

In the second place, there are two distinct currents in 19th-century materialism. The first current arose chiefly as a reaction to Hegel's idealism. It stems from left-wing Hegelianism, particularly as formulated by Ludwig Feuerbach (1804–72) and is one of the immediate sources of Marxian materialism.[6] The second current which was inspired in part by a dissatisfaction with Hegel's philosophy of nature, is closely connected

with the rapid growth of the natural sciences in the second half of the 19th century. This current found its most extreme expression in the writings of Jakob Moleschott (1822–93), Karl Vogt (1817–95), Heinrich Czolbe (1819–73) and Ludwig Büchner (1824–95). Philosophically, the second current added little to the materialism of the 18th century on the problem of the relation of matter and mind. It was, in fact, inferior to the French Materialism of the preceding century.

At the same time its influence was far greater than that of the materialism of the previous century. Materialism in one form or another dominated scientific thought in the 19th century. Even among scientists who were not materialists in the strict sense of the word, but who, like Pasteur, were sincere Christians, the conviction reigned that the only legitimate object of scientific investigation were concrete, measurable facts. With the exception of the introspectionist psychologists of the last quarter of the century, the world of science for the scientists of the 19th century was the world of mechanics. Mind, spirit or soul were no concern of the scientist as such.

The extent to which materialism captivated the scientific ethos of the 19th century is illustrated by the debate on materialism occasioned by a lecture delivered by Rudolf Wagner (1805–64) to a meeting of scientists of Göttingen in 1854. In the lecture, entitled *Über Menschenschöpfung und Seelensubstanz* Wagner defended the possibility of a spiritual substance. Wagner's lecture was greeted with shocked protest. The publication, later the same year, of the text of the lecture drew from Vogt a polemical attack entitled *Kohlerglaube und Wissenschaft*. It was inconceivable that a scientist should speak on a topic which was considered to belong to the realm of religion.[7]

The Russian school of physiological psychology belongs to this *mechanist-monist* current rather than to the first-mentioned 'dialectical' current. Yet both currents have in common a monist view of reality. Dialectical materialism and Russian physiological psychology both share a common monistic conception of man and are equally vehement in rejecting all forms of dualism. This monism, as we shall see, took on different forms in each. What we wish to emphasize here is that the point of contact between dialectical materialism and Russian physiological psychology is not materialism but monism. It is their monist conception of man that unites them, both historically and doctrinally.

The 19th century also saw the gradual separation of psychology from philosophy and the formation of the former as an experimental science. The emergence of psychology as an autonomous discipline was due in large measure to the advances in physiology and in particular in the physiology of the brain and nervous system.[8] The work of Johannes Müller (1801–58) and Sir Charles Bell (1774–1842) on cortical localization of psychic functions, and the investigations of Paul Broca (1824–80) into the disturbances of mental functions as a result of cerebral lesions, gave a new impulse to the search for a physiological explanation of psychic events. Though few of the foremost psychologists of the 19th century were materialists, a large part of the work of such men as Ernst Weber (1795–1878), Gustav Fechner (1801–87), Emil Du Bois Reymond (1818–96) and Hermann Helmholtz (1821–94) was devoted to the study of physiological events as a guide to the nature of psychic events, as e.g. the study of the psycho-physiology of sensation. In this way they were continuing the tradition of 'objectivism' and mechanism which had its beginnings in the philosophy of the 17th century.

The 'objectivist' and mechanist tradition entered Russia in the second half of the 19th century through the works of I. M. Sečenov, who had been in turn a pupil of Du Bois Reymond, Helmholtz and Müller.

B. RUSSIAN PHYSIOLOGICAL PSYCHOLOGY

The Russian physiological tradition pre-dates the October Revolution by more than half a century. It arose and developed quite independently of the Marxist-Leninist tradition and is the Russian counterpart of the mechanist psychology of the same period in France, Germany and England. It was characterized by a vigorous objectivism and attempted to find an explanation for psychic events in terms of the physiology of the brain and nervous system. The most important representatives of this school are I. M. Sečenov, V. M. Bexterev, and I. P. Pavlov.

1. Ivan Mixajlovič Sečenov (1829–1905)[9]

Ivan Mixajlovič Sečenov has been justly called the 'Father of Russian physiology'. He was the founder of the school of physiological psychology which flourished in Russia in the second half of the 19th century. Sečenov first studied engineering at the Military Engineering School in St. Peters-

burg but soon found that he had no taste for that subject and left to enter the Medical Faculty of the University of Moscow. On graduation he left for Germany and France, where he studied under some of the greatest scientists of his day, Helmholtz, Hoppe-Seyler, Du Bois Reymond and Claude Bernarde.

On his return to St. Petersburg in 1863 he published his first major work, *Reflexes of the Brain*, which was to be the first of a series devoted to the objective study of psychic phenomena. The *Reflexes of the Brain* was originally submitted to the periodical *Sovremenik* under the title, *An Attempt to Explain Physiologically the Origin of Psychic Phenomena.* This title failed to pass the censor as did the revised title, *An Attempt to Establish the Physiological Basis of Psychic Processes.* The work was finally published in the *Medicinskii Vestnik* under the title *Reflexes of the Brain.* In 1876 he received the professorship at St. Petersburg University but relinquished it in 1888 to occupy the chair of physiology at Moscow University. He died on November 2nd, 1905.

In his three most important works[10]: *Reflexes of the Brain* (1863), *Who is to Elaborate the Problems of Psychology and How?* (1873), and *Elements of Thought* (1878), Sečenov developed his theory of reflexes and his method for the objective investigation of mental life. His purpose, he states, is to study 'psychic life' which he defines as "the world of phenomena engendered by the functioning of the brain".[11] This world is attainable by objective study because it finds its expression in external manifestations. Hence Sečenov sets himself the task of studying the laws governing the external manifestations of psychic activity. All external manifestations of psychic life can be reduced to a single phenomenon: 'muscular movement'.[12] Sečenov goes on to show that muscular movement takes the form of a *reflex*, i.e. a response to some external stimulus.[13] Having distinguished between voluntary and involuntary movement, Sečenov concludes that both are basically reflex in nature. Though the origin of voluntary movement appears to be entirely within the subject, this he says is an illusion: "The initial cause of any human activity lies outside man."[14]

It is not Sečenov's intention to deny the existence of consciousness or even the active role of consciousness in human behaviour. His purpose is rather to demonstrate that voluntary movement, which appears to originate entirely from within the subject, independently of any external

stimulus, is in fact provoked by an external stimulus. Hence voluntary activity, like involuntary, follows the schema of the reflex.[15] In consequence, consciousness which is the characteristic mark of voluntary activity, is drawn into the schema of the reflex; even self-consciousness "is also based on a more or less complex reflex".[16]

Sečenov goes on to define consciousness as the "intermediate member of an integral act", "the intermediate member of a reflex".[17] This 'integral act' begins with a sensory stimulation and ends in a muscular movement. Though Sečenov often refers to the intermediate stage of the act as the "psychical element" he states clearly in *Who is to Elaborate the Problems of Psychology, and How?* that the whole act, beginning with the external stimulus and ending in a muscular movement, is psychic. "The concept of a psychical act as a process or motion having a definite beginning, course, and end, must be retained as fundamental."[18]

At the heart of Sečenov's thought is the concept of the inseparability of the psychic from neurological phenomena. It is impossible, he says, "to divorce the intermediate member of an integral act from its natural beginning and end".[19]

As to the precise relationship of psychic and physiological events, Sečenov tends to reduce the former to the latter. In the first place he admits that all psychic acts can "in their entirety be subjected to physiological study".[20] Insisting that psychology must become a positive science, Sečenov adds, "only physiology can achieve this because it alone holds the key to the truly scientific analysis of psychical phenomena".[21] More significantly, he denies that there is a clear-cut distinction between somatic and psychic events. The distinction between them is only quantitative:

> To sum up, *apart from a quantitative difference, there is not a single conceivable aspect which, in essentials, would distinguish the products of the lower forms of activity of the sense organs from the reflex processes in the body.* It follows, therefore, that the *somatic nervous processes and the lower forms of psychical phenomena resulting from the functioning of the higher sense organs are allied in their nature.*[22]

But, he argues, Locke has shown that psychic development originates entirely in the activity of the sense organs.[23] Hence, he concludes:

> *... the somatic nervous processes are, in general, allied to all the psychical phenomena stemming from the activities of the sense organs irrespective of their levels.*[24]

Consequently, on all levels of the psychic, the distinction between psychic events and somatic, nervous processes is the same, i.e., a purely quantitative distinction. In short:

> There are no clear distinctions whatever between the obviously somatic, i.e., bodily, nervous acts and the definitely mental phenomena.[25]

Sečenov's view on the relation of psychic and nervous phenomena effectively reduces the psychic to the physiological and seems to imply a form of anthropological materialism – the denial of any non-material principle in man. Sečenov, however, is careful not to commit himself on this point. The question: is the brain, the organ of the spirit or is spirit the product of the functioning of the brain?, he leaves to the 'philosophers'.[26] For the physiologist it is enough to know that the brain is "the mechanism which, if brought into action by a certain cause, ultimately produces a series of external phenomena which are the expressions of psychical activity".[27] In *Who is to Elaborate the Problems of Psychology, and How?*, Sečenov further declares that "the essence of the psychical phenomena, in so far as they are manifested in consciousness (like the essence of all other natural phenomena), will still be concealed from us".[28]

Sečenov's position on the relation between psychic and physiological phenomena is closer to naturalism than to strict materialism: it is rather a methodological standpoint than a metaphysical theory. However, many of Sečenov's statements are open to a materialist interpretation and lend a certain credence to the claim of contemporary Soviet psychologists that Sečenov was in fact a materialist.[29]

Significance of Sečenov's work

Sečenov's ideas are significant for the general history of psychology as providing one of the first consistent and truly objective methods of psychological investigation. His works anticipated many of the ideas of the 20th-century behaviourists. His influence on Russian psychology can hardly be exaggerated. It is second only to that of Pavlov, who acknowledged his indebtedness to Sečenov, and who credited him with laying "the real foundations of the teaching concerning the mechanism of the central nervous system".[30]

2. *Vladimir Mixajlovič Bexterev (1857–1927)*[31]

The call for the use of objective methods in the study of human personality

was taken up by V. M. Bexterev. Born in 1857, Bexterev studied medicine at the Medicosurgical Academy in St. Petersburg before going abroad in 1884 to do research under Du Bois Reymond, Wundt and Charcot. On his return to Russia he taught at the University of Kazan until his appointment, in 1893, as professor at the Military Medical Academy in St. Petersburg. He became director of the Academy in 1905 and two years later founded the Psychoneurological Institute in St. Petersburg. The author of some 600 scientific works on anatomy, neurophysiology, psychiatry and psychology, his most important books include: *Nerve-Paths in the Brain and Spinal Cord* (1893), *The Fundamentals of Cerebral Functions* (1903), *Objective Psychology* (1907), *General Principles of Human Reflexology* (1917), *Collective Reflexology* (1921), *The Brain and its Activity* (1928).[32]

Bexterev sets himself the task of establishing a strictly objective science of man and so bringing the scientific study of man into line with the natural sciences. Hitherto, according to Bexterev, the sciences have been divided into two groups: the physico-biological sciences, which use a strictly objective method and to which the so-called natural sciences belong; and the humanistic sciences, or sciences of man, which include the so-called normative sciences. This latter group is characterized by its subjective methodology.[33]

The subjective method is unreliable, not only for investigating the inner experiences of other people but also for answering such basic questions as the nature of free will and the evolution of consciousness.[34] The use of this method has continually misled mankind to accept ideas diametrically opposed to the data of science.[35]

The only reliable method of scientific investigation is the objective method employed in the natural sciences. Since the subjective processes in man are only accessible to purely subjective methods, such as introspection or self-observation, man's subjective processes and the processes of consciousness can never be a valid object of scientific investigation.[36]

Bexterev therefore sets out to establish a new science, which will study human personality from a strictly objective, bio-social standpoint.[37] To attain the necessary objectivity in the study of human personality the investigator, he says, must put himself in the position of a being from another planet who has come into contact with men for the first time. Such a being would be forced to study human personality from a strictly

objective standpoint without having recourse to a subjective study of the supposed inner experience of man through an analogy with its own subjective world. It would be forced to limit itself to a study of man's external behaviour, as a correlate to the stimuli acting on his organism from without. In other words, man's behaviour would appear to such a being as a reflex.[38]

This is the standpoint which Bexterev endeavours to adopt establishing a strictly objective science of man. This new science he calls 'Objective Psychology' or 'Reflexology'. Its object is the study of the correlative activity of the organism in the widest sense of the word, including the inherited and acquired reflexes from the simplest to the most complex.[39] All man's psychic processes are basically reflexes; they arise as a result of an impulse from the environment.[40]

According to Bexterev, the application of objective methods to the study of man has the further advantage of establishing that the same laws which govern the physico-biological process are valid for human personality and even for human society.[41] Bexterev believed that all process or movement in reality – physical, psychological or social – could be reduced to the law of the conservation and transformation of energy.[42] Physics, he declared, has proved that matter is a fiction and that only energy exists. If it can be shown that psychic movement can also be reduced to energy there will be no further need to oppose the psychic to the physical. But it is clear, he continues, that all psychic processes are cerebral processes caused by the movement of neural electricity. But neural electricity is itself a form of electricity. Hence the subjective world of consciousness as well as all cerebral processes are the result of the transformation of energy and obey the laws of transformation and conservation of energy discovered by Mayer and Helmholtz.[43]

In his explanation of psychic phenomena, Bexterev adopts a monist viewpoint more radical than that of Sečenov. Psychic events are to be explained, not merely in terms of the laws of physiology, but by the laws of physics.

Significance of Bexterev

Bexterev's ideas were widely acclaimed both in Russia and abroad during the first decades of this century, and his major works were translated into German, French and English. Many of his ideas were echoed

in the works of the early behaviourists and exercised a considerable influence on the behaviourist movement generally. Bexterev's school dominated Russian psychology in the decade which followed the Revolution, but after his death in 1927 its influence waned. By the second half of the nineteen-thirties it had entirely disappeared being considered incompatible with the new line adopted by Soviet psychology after 1934.[44]

3. Ivan Petrovič Pavlov (1849–1936)[45]

Ivan Petrovič Pavlov is beyond doubt the most illustrious and best-known representative of the Russian school of physiological psychology. The son of a village priest, he was himself intended for the priesthood and received his early education at the theological seminary in his native Rjazan'.[46] In 1870, however, he relinquished the idea of becoming a priest and entered the University of St. Petersburg where he studied science under such eminent men as Mendeleev and Butlerov. In 1875 he transferred to the Military Medical Academy of St. Petersburg from which he graduated four years later. In 1883 he received the doctorate in medicine and went abroad to study for two years. In 1890 he was elected to the chair of Pharmacology at the Military Academy of St. Petersburg and five years later became professor of physiology, a post which he held until his resignation in 1924.

Pavlov's scientific career falls into four periods.[47] From 1878 to 1888 he was engaged principally in experiments on the circulation of the blood. About the time he became professor of pharmacology he turned his attention to the study of the digestive glands. It was for his researches into the physiology of digestion that he was awarded the Nobel Prize in 1904. In the course of his experiments on the digestive system Pavlov discovered the phenomena of the conditioned reflex and from 1902 onwards he devoted his whole attention to the study of the nervous system using the method of conditioned reflexes. However, from 1928 until his death on February 27th, 1936, Pavlov devoted considerable attention to the problems of psychiatry and psycho-pathology.

It is Pavlov's investigations into cerebral activity and conditioned reflexes that interest us here as they have a direct bearing on psychology. In the course of his experiments on gastric excretions in dogs, Pavlov observed that salivation occurred not only when food or acid were present in the mouth of the dog but even at the mere sight of food or acid, or even

at the approach of the attendant who usually brought the food. The intrusion of these and similar phenomena into his experiments forced Pavlov to make a careful study of them. At first these phenomena seemed to Pavlov to be of a purely psychological nature and in his earlier lectures he often refers to them as "psychic excitation"[48] or "psychic secretions".[49] The fact that the dog secreted saliva not only when food itself was present in the mouth but at the mere sight of food, or even of the dish which usually contained the food, seemed best explained by psychological statements as: 'the dog associated the dish with the food' or 'the dog remembered that the dish usually contained food'.[50]

However, Pavlov soon found that all attempts to explain these phenomena in terms of the subjective states of the animal led to "unsuccessful controversies and to individual, personal, uncoordinated opinion".[51] Pavlov finally decided to study the phenomena from a strictly physiological point of view and to "return to the role of a pure physiologist, i.e., of an objective, external observer having to do exclusively with external phenomena and their external relations".[52]

Pavlov proceeded by applying the concept of the reflex to the phenomena of "psychic secretion".[53] He felt justified in so doing because "their exceptional manifestations unquestionably have much in common with ordinary reflex action".[54] These reflexes or 'psychic reactions', Pavlov called conditioned reflexes[55] or temporary connections[56] to distinguish them from the normal, unconditioned reflexes (e.g., salivation when food is present in the mouth), which are inborn, relatively constant connections between the organism and its environment.

Conditioned reflexes are acquired through individual experience in the course of ontogenesis. The importance of the conditioned reflex is that it enables the organism to adapt itself to the changing conditions of its environment.[57] Through the mechanism of the conditioned reflex, an indifferent stimulus becomes the signal for those properties of an object which have a vital significance for the organism.[58] In consequence, the conditioned reflex is extremely mobile; almost any neutral stimulus can become a signal for an unconditioned stimulus. Moreover, if the conditioned reflex is not reinforced, i.e., followed by the unconditioned stimulus, it is quickly extinguished and so ceases to produce the reflex.[59] The formation of the neural connections necessary for the production of the conditioned reflex is the work of the cerebral hemispheres.[60]

Conditioned and unconditioned reflexes realize the connection of the organism with its environment and are directed towards the maintenance of a state of equilibrium between the system of the organism and external conditions.[61] The activity involved in the formation of this connection is called by Pavlov 'higher nervous activity' (*vyssšaja nervnaja dejatel'nost'*) to distinguish it from 'lower nervous activity' (*nižnaja nervnaja dejatel'nost'*), which is directed towards integrating the work and interaction of different parts of the organism.[62]

The stream of stimuli which come from the external world and signalize those objects necessary for the survival of the organism Pavlov calls the 'first signaling system' (*pervaja signal'naja sistema*). This system is common to man and the higher animals.[63] In man, however, there is a second line of signals made up of words. Words or speech do not directly signalize reality but rather the data of the first signaling system. Words are therefore signals of signals. Pavlov calls this the 'second signaling system' (*vtoraja signal'naja sistema*). The possession of the second signaling system permits "the generalization of the multitude of signals of the former system and a higher degree of analysis and synthesis".[64]

The second system of signals is the "very last attainment of the evolutionary process".[65] It is the principle of man's limitless orientation in the surrounding world and of that particular form of adaptation to environment proper to man, science.

Though the second system of signals is proper to man – "it is nothing other than words which have made us human" – Pavlov adds: "It is beyond doubt that the essential laws governing the work of the first system of signals regulate the second system as well, because it is work done by the same nervous tissue".[66]

Pavlov's investigations have proved to be the most successful attempt to establish a purely objective method for the study of psychic phenomena. However, the question arises: does Pavlov in fact end by denying any distinction between physiological and psychological events? Though this charge is vigorously rejected by Soviet psychologists and physiologists, there is considerable evidence to lend it support. Pavlov's innocence of any form of 'reductionism' was officially proclaimed at the Pavlov Conference of 1950[67] but it is significant to note, as N. P. Antonov points out, that up to the Conference many psychologists considered Pavlov's teaching mechanistic.[68] It is true that Pavlov himself denied that he was

a mechanist and spoke of the "absurdity of a reconciliation between the subjective and the mechanical state".[69] However, read in its context, it is not certain that Pavlov totally rejected the ideal of arriving at a mechanistic conception of man. In fact, Pavlov's quarrel seems to be with the ability of science, in the present state of its development, to arrive at such an interpretation. In the article from which the above quotation is taken, Pavlov goes on to say: "From my point of view, the point of view of a physiologist, I try to push our common problem a little further in the direction of a true general mechanics".[70] Commenting on the first quotation, W. Horsley Gannt, who had been a collaborator of Pavlov for five years, remarks: "In spite of these denials, it must be admitted that Pavlov drew largely on the philosophy of Descartes who compared the animal organism to a machine".[71]

A form of reductionism is certainly implicit in Pavlov's teaching on the relation between the first and second signaling systems. For Pavlov, the second signaling system is that which primarily distinguishes man from the brutes. But, as has already been remarked, the second system of signals obeys the same laws as the first, which is common to man and the brutes. Again Pavlov refers to the conditioned reflex in some places as "an elementary psychic phenomenon", while in others he calls it "a purely physiological phenomenon";[72] while he defines consciousness as "a nervous activity of a certain part of the cerebral hemispheres".[73]

In his 'Reply of a Physiologist to Psychologists', Pavlov expresses himself unequivocally on what he considers the true relation of psychology to physiology. The most important present-day scientific undertaking is, in his opinion, that of "identifying the physiological with the psychological, the subjective with the objective".[74] Soviet writers usually try to explain away this and similar statements of Pavlov by saying that they are merely directed against "the idealist separation of the psychic from its material physiological basis".[75]

Though the texts quoted above – and similar texts with which Pavlov's works abound – seem to demonstrate conclusively that Pavlov's conception of the relation between psychic and physiological events was mechanistic in the extreme, care must be taken in interpreting these and similar statements of Pavlov. It is true, as W. H. Gannt remarks, that Pavlov "treated the subjective physiologically"[76] and that the philosophical implications of many of his statements suggest that he sub-

scribed to a crude form of reductionism. However, it must be remembered that Pavlov was above all a scientist, committed to an objective standpoint and distrustful of anything that could not be subjected to mathematical analysis.[77] Though he defined consciousness as 'nervous activity', Pavlov made it quite clear that he did not wish to "discuss this question from a philosophical point of view", i.e., "I shall not touch on the problem of how the brain substance creates subjective phenomena".[78] Like Sečenov, Pavlov's attitude towards psychic phenomena is fundamentally that of a naturalist and a scientist, and we shall look in vain for clear philosophical statements in his works.

But the fact remains that a mechanist point of view is implicit in Pavlov's attitude to psychic phenomena. However, if there is reason to hesitate before labelling Pavlov a mechanist there is all the more reason for hesitation in calling him a materialist. Yet Soviet writers, particularly since 1950, have made extravagant claims for Pavlov's materialism. Not content with asserting that Pavlov's teaching on higher nervous activity provides a natural-science foundation for a materialist psychology and even that it provides a scientific confirmation of the Marxist-Leninist worldview, many Soviet writers go so far as to claim that Pavlov was a convinced and 'conscious' materialist.[79] It is certainly nearer the truth to say that Pavlov was a mechanist and not a materialist than to say that he was a materialist but not a mechanist. Materialism is a philosophical standpoint while mechanism can be both a philosophic and a natural-science doctrine. Pavlov himself summed up his outlook in a speech delivered in 1931, in the following terms: "I am neither a materialist nor an idealist; I am a monist, or, if one must commit oneself, a methodological materialist."[80]

While in the Soviet Union Pavlov's works have been hailed as "marking a new era in the development of creative natural science"[81], his ideas have been received elsewhere with mixed approval varying from that of the American physiologist John F. Fulton: "Pavlov was indeed one of the five or six individuals of the last generation who caused mankind to think in new terms"[82], to Bernard Shaw's acid remark: "Pavlov is the biggest fool I know; any policeman could tell you that much about a dog".[83]

Pavlov's skill and originality as an investigator are above doubt and much of his work on conditioned reflexes is of permanent value. While

his basic teaching on conditioning has won wide, if not universal acceptance, many of his theories relating to speech, the second signaling system, and learning have not been generally accepted outside the Soviet Union. Within the Soviet Union the influence of Pavlov's ideas has been overwhelming and since 1950 adherence to his teaching has been obligatory for all workers in the biological sciences. Today Pavlov's writings enjoy an authority second only to that of the 'Classics' of Marxism-Leninism. The influence of Pavlov's ideas on the development of psychological theory in the Soviet Union, particularly after 1950, will be discussed in the following chapter.

4. Conclusion on Russian Physiological Psychology

The theoretical model of human personality common to the Russian school of physiological-psychology is clearly mechanistic: consciousness and subjective elements generally, have no place in its schema of human behaviour. The whole trend of the school is, in consequence, reductionist since it is forced by a refusal to admit the role of subjective factors in human behaviour to reduce all such factors to the status of higher-order neural phenomena, and in particular to the *reflex*. It is, moreover, behaviourist since it focuses attention exclusively on external human activity and refuses to admit the scientific validity of introspection. With the exception of Bexterev, the representatives of this school are not materialists, just as they are not philosophers, even though they rigorously exclude non-material elements from their systems. Their conception of man is radically *monist*. Moreover, the monism they adopt is both *categorial* and substantial, that is to say they not only consider man as one substance but they do not admit any essential distinction between psychic and physiological events.

C. MARXIST-LENINIST PHILOSOPHY

The sources for Marxist-Leninist philosophy are the writings of the so-called 'Classics' of Marxism-Leninism: Karl Marx (1818–83), Friedrich Engels (1820–95) and Vladimir Il'ič Lenin (1870–1924). Both Engels and Lenin derive their inspiration directly from the writings of Marx who, in his turn, was influenced by Hegel, Feuerbach and the scientific materialism of the 19th century.[84] Both Marxist-Leninist philosophy and

Russian physiological psychology have common roots in the history of philosophy stretching from the 19th century back to Descartes. But Marxist-Leninist philosophy contains an important element entirely lacking in Russian physiological psychology, namely the Hegelian dialectic. It must be remembered that Marxism-Leninism is more than a philosophy; it also contains a theory of political economy and the so-called 'theory of scientific Communism'.[85] Only the philosophy interests us here as it is said to provide the general philosophical foundation for Soviet psychology.

It is not our purpose here to give a complete account, however schematic, of Marxist-Leninist philosophy but rather to outline those aspects of the teaching of the 'Classics' which have a direct bearing on Soviet psychology. Though none of the 'Classics' wrote a work on psychology, the general principles of dialectical materialism, particularly those referring to materialistic monism and the dialectical nature of reality, have important consequences for psychological theory. In attempting to construct psychology on the basis of dialectical materialism, Soviet psychologists have successively concluded that psychology must be (a) materialist and (b) dialectical.[86] The consequences of materialism for psychology are usually expressed in contemporary Soviet literature by the insistence that the psychic is a property of highly organized matter, the brain; while the significance of dialectics for psychology is that it leads to the recognition of the specific character of the psychic and its irreducibility to the laws of physiology. Considerable emphasis is also placed on the so-called Marxist-Leninist theory of reflection as the 'theoretical basis of psychology', and as defining the content of psychic phenomena. In this section an attempt will be made to determine the meaning of materialism, dialectics and the theory of reflection in the works of the 'Classics' and to discuss their significance for psychological theory.

1. Materialism

a. Marx[87]

Though Soviet authors give equal credit to Marx and Engels as the founders of dialectical materialism its real source is to be found in the works of Friedrich Engels. It was not primarily Marx's intention to formulate a systematic ontology and Soviet writers have been hard pressed to find explicit texts in the writings of Marx on which to base

dialectical materialism.[88] In his later years, Marx had little interest in speculative philosophy being preoccupied with what Engels later called the "materialist conception of history".[89] This is at once a sociology, a theory of political economy and a historiography.

Marx gives a condensed account of his conception of history in the preface to the *Contribution to the Critique of Political Economy*. The substance of this view of history is summed up by Marx as follows:

> The mode of production of material life determines the social, political and spiritual processes of life. It is not the consciousness of men that determines their being, on the contrary, it is their social being that determines their consciousness.[90]

In Marx's view, the motive force in history is the changing forces of production. In a given society the social and spiritual elements derive from, and are determined by, the forces of production at work in that society and by the relationships of production to which they give rise. The Marxian concept of history is, therefore, the opposite of the Hegelian, according to which the principle of evolution is the 'idea' which is realizing itself in history.

It is in the context of Marx's economic historicism that the terms 'material' and 'materialism', which occur frequently in the writings of Marx, must be understood. Expressions like "material conditions of life",[91] "material powers of production"[92], "product of material life"[93], "material basis of all social organization"[94], etc., are to be found on almost every page of Marx's writings. But these expressions must be carefully understood. In the first place, for Marx, as for Feuerbach, materialism signifies primarily the rejection of idealism, particularly that of Hegel. It signifies the priority of the individual over the universal, the concrete over the abstract, the real over the ideal.[95] In this sense Marxian materialism is primarily an affirmation of epistemological realism, of the primacy and independence of being over thought.

In the second place, and as a corollary to his epistemological realism, materialism for Marx is also a thesis in social psychology: just as for the individual, thought or consciousness is a reflection of being, so too for society, social consciousness is the reflection of social being.[96] The 'being' of society, for Marx, is essentially the forces and relationships of production active in that society. Hence, when Marx speaks of the "material

production of life" or when he refers to the ideas contained in the preface to the *Critique of Political Economy* as the "material basis of his method"[97], he has in view the concrete material facts of production which condition, and even determine, the so-called spiritual or ideological elements in society – what Marx calls the superstructure (*Überbau*).

Though not found explicitly in the writings of Marx, ontological materialism is the presupposition of much of Marx' thought. In the *Holy Family* he endeavours to demonstrate a continuity between the materialism of the 17th and 18th centuries and communism.[98] It is implicit above all in his "materialist conception of history". For psychology, one of the most important characteristics of Marx' materialism is that it does not exclude the existence of non-material elements in reality. For Marx the superstructure of society is non-material. It consists of political and juridical relationships and the forms of social consciousness: art, religion, philosophy, etc., what could be called the spiritual content of society. But the presence of these non-material elements in reality is compatible with a materialist world view because they always remain products of material economic forces, and are determined by them.[99] Marxian materialism therefore consists in the affirmation that there is no force in history or society which is not either material or else totally dependent on the material.

b. Engels[100]

In the writings of Friedrich Engels, the materialism implicit in Marx takes the form of an explicit world outlook, and it is to Engels that Soviet psychologists most readily turn for their philosophical principles. The immediate inspiration for Engels' materialism is the Marxian "materialist conception of history", for which it is intended by Engels to provide a philosophical foundation. Engels' dialectical materialism is most clearly elaborated in three works: *Ludwig Feuerbach*, *Anti-Dühring* and the *Dialectics of Nature*.

Like that of Marx, Engels' materialism has a marked epistemological character. For Engels, as for Marx, materialism signifies, in the first place a definite standpoint on epistemology, namely, that being is prior to thought and that thought is a reflection of being. From this point of view, Engels' materialism is no more than the affirmation of epistemological realism, for Engels, like Marx, conceives materialism as the re-

jection of Hegelian idealism – the primacy of spirit over matter. Engels, in fact, confuses realism and materialism. In a well-known text in *Ludwig Feuerbach* he equates the epistemological problem "concerning the relation of thinking and being" with the ontological problem: "Which is primary, spirit or nature. ... Did God create the world or has it been in existence eternally?"[101] This confusion has become part of Engels' legacy to Soviet philosophy and with it the division of all philosophy into materialist and idealist on the basis of the answer to these two problems. For Engels, there can be only one answer to both problems, materialism or idealism.

At the same time, Engels' materialism is fundamentally ontological. Unlike Marx, for whom nature without man is inconceivable and meaningless, a chaos unworthy of consideration[102]; nature, for Engels, exists apart from, and independently of, man. It obeys its own laws and is in itself a fit object of investigation.

In the first part of the *Anti-Dühring* and in the *Dialectics of Nature*, Engels sets out to study the characteristics of the natural world, to investigate its laws and to construct a science of nature, to convince himself:

> ... that in nature amid the welter of innumerable changes the same dialectical laws of motion force their way through, as those which in history govern the apparent fortuitousness of events.[103]

The most fundamental characteristic of nature is its materiality. All nature is one in being material; it is matter which gives unity to the multiplicity of forms in which nature clothes itself: "the real unity of the world consists in its materiality".[104] Matter is eternal and indestructible. From the eternal movement of matter arises: "Every finite mode of existence of matter whether it be sun or nebular vapour, single animal or genus of animal, chemical combination or dissociation", right up to "animals with brains capable of thought".[105]

But what are psychic phenomena; do they constitute a world of their own apart from material nature? Engels replies that "no spiritual world exists separately, besides the material world".[106] All that exists is matter and the motions of matter. Psychic phenomena, therefore, belong to the material world. They are products of the material world: "It is the nature of matter to advance to the evolution of thinking beings."[107] Thought

and consciousness are "products of the human brain" which itself is a "product of nature".[108] As to the ontological status of thought and consciousness, Engels declares that they are "forms of the motion of matter".[109]

c. Lenin[110]

Lenin's materialism is derived mainly from Engels, and except in one respect does not differ from that of his predecessor. Lenin follows Engels in stating that the unity of the world consists in its materiality[111] and in equating the epistemological problem of the relation of thought to being with the ontological problem of the relation between matter and spirit.[112]

Lenin, however, was faced with the problems posed by the new discoveries in physics at the turn of the century and the consequent need to re-examine the concept of matter. The discovery of sub-atomic particles, radioactivity and the new theory of relativity called for a revision of the traditional notion of matter. Some physicists spoke of the disappearance of matter[113] and many scientists took philosophical refuge in various forms of idealism. Many Russian Marxists, disturbed by the new discoveries, turned to empirio-criticism for a solution; against these Lenin wrote his *Materialism and Empirio-Criticism.*

Lenin attempted to defend materialism against the objections of the physicists by distinguishing between the 'physical' or 'natural-science' definition of matter and the philosophical. According to Lenin, the physical concept of matter concerns the internal structure of matter and is merely a scientific model valid only to the extent that it expresses the experimental knowledge of matter attained by natural science at any given period. Hence Lenin argues that "'matter is disappearing' means that the limit within which we have hitherto known matter is vanishing and that our knowledge is penetrating deeper..."[114] As to the philosophic concept of matter, Lenin concludes that "the sole property of matter with whose recognition philosophical materialism is bound up is the property of existing outside our mind".[115] As it stands, this definition of the philosophical concept of matter amounts to realism rather than materialism, but Lenin elsewhere completes the above definition by stating that matter is "the philosophical category denoting objective reality which is given man by his sensation"[116]; still Lenin's materialism, like Marx's, is predominantly epistemological.

Lenin gives no detailed analysis of psychological problems but, like Engels, touches on them here and there when treating other questions. Except for the theory of reflection, which we shall presently consider in detail, Lenin adds nothing significant to Engels' analysis of psychic events. However, it will be useful to list the more important statements of Lenin on psychology as these are constantly quoted in Soviet works on psychology and the precise interpretation of many of these statements has often been the subject of heated debate among Soviet psychologists.

In the first place, Lenin declares that "the psychical, the mind etc., is the highest product of matter [i.e. the physical], it is a function of that particularly complex fragment of matter, the human brain".[117] Consciousness is defined as "an internal state of matter".[118]

However, Lenin explicitly denies that thought is material: "To say that thought is material is to make a false step towards confusing materialism with idealism."[119] Lenin, therefore, admits an antithesis between mind and matter but goes on to say that "even the antithesis of matter and mind has absolute significance only within the bounds of the fundamental epistemological problem of what is to be regarded as primary and what as secondary".[120]

Lenin seems to differ somewhat from Engels on the ontological status of psychic events. Speaking of what he calls the "real views of the materialists", he says: "These views do not consist in deriving sensation from the movement of matter or reducing sensation to the movement of matter but in recognizing sensation as one of the properties of matter in motion."[121] Sensation, he declares, in another text, consists in the "transformation of the energy of the external excitation into a state of consciousness".[122]

On the relation of the psychic to the physiological Lenin declares that "nervous processes" are the "material substrate of psychic phenomena".[123]

2. Dialectics

Some treatment of the Marxist-Leninist teaching on dialectics is necessary for the right understanding of Marxist-Leninist materialism. As the name dialectical materialism implies, it is precisely its dialectical quality which is the distinctive characteristic of Marxist-Leninist materialism. It is precisely for its static, 'metaphysical' character that Engels criticizes

earlier forms of materialism and for its failure to recognize the dialectical dynamism of the material world.[124]

Though Engels claimed to observe the beginnings of dialectics in the writings of the early Greek philosophers – particularly in Aristotle, "the most encyclopaedic intellect of them all"[125] – in Descartes, Spinoza and even in Diderot and Rousseau, it is from Hegel that the 'Classics' borrowed the basic elements of their dialectical method.

As in the case of materialism, the inspiration for the use of the dialectical method comes from Marx, but its systematic elaboration is the work of Engels.[126] According to Marx, the dialectic underwent a 'mystification' at the hands of Hegel but that does not prevent Marx from calling himself "the pupil of the mighty thinker" and adopting the "dialectical method" in writing the *Capital*; a dialectic which has been stripped of its "mystical shell", "turned right side up" so that its "rational kernel" is retained.[127]

For Engels, the value of the dialectic is that it presents a dynamic picture of reality: "The whole world ... is represented as a process."[128] The combination of the Hegelian dialectic with materialism has resulted in a new, progressive materialism which "embraces the more recent discoveries of natural science".[129] "Modern materialism is essentially dialectical."[130]

In the *Dialectics of Nature* Engels tells us precisely what he means by dialectics. It is the science of the general laws of the movement and development of nature, human society and thought.[131] These laws can be reduced to three: the law of the transformation of quantity into quality and vice versa; the law of the interpenetration of opposites; the law of the negation of the negation.[132]

It would take us too far afield to discuss each of these three laws. Since, however, the first law is of special importance for psychology we shall briefly discuss its significance.

In the *Anti-Dühring* and the *Dialectics of Nature*, Engels distinguishes two kinds of change in nature.[133] The first is merely quantitative, a gradual alteration producing no essential mutation. In the course of a series of quantitative changes, a point is reached when the change ceases to be quantitative and a violent qualitative change occurs which produces a qualitatively or essentially new phenomenon. This second kind of change Engels calls a "qualitative leap" (*qualitativer Sprung*). Engels

gives numerous examples of such a change, taken from nature and society. For example, water when cooled gradually (quantitative change) shows no apparent change of state until a point is reached – 0° centigrade – at which it suddenly changes into ice (a sudden qualitative change or leap from water to ice). "In the same way, the transition from the physics of molecules to the physics of atoms – chemistry – in turn involves a decided leap; and this is even more clearly the case in the transition from ordinary chemical action to the chemism of albumen, which we call life."[134]

The introduction of dialectics adds a new dimension to the materialism of the 'Classics'. Matter is no longer a homogeneous property of all reality. Within the material unity of the world there is room for specific differences. In this way Engels' 'materialistic monism' differs sharply from the monism of Pavlov and the Russian physiological psychologists generally. Engels' monism is combined with categorial pluralism. The monism of the Russian physiological psychologists is strictly categorial. Engels conceives of reality as a hierarchy divided into different levels, each with its own specific laws. These levels are different forms of the motion of matter, beginning with simple mechanical change and ascending through chemical and organic change to the highest form of motion which is human thought.[135]

The affirmation of the dialectical nature of reality is the key to the reconciliation of the material unity of the world with the special irreducible nature of the psychic. For Engels, the different levels of material reality always remain distinct and irreducible; the motion of matter on a higher level cannot be reduced to, or explained by, the laws of motion on a lower level. In this connection it appears that Engels considers that thought or consciousness is a higher form of the motion of matter.

3. The Marxist-Leninist Theory of Knowledge

The so-called Marxist-Leninist theory of knowledge is Lenin's creation, hence it is sometimes referred to as the 'Leninist theory of reflection'. Lenin was the only one of the 'Classics' to write at any length on theory of knowledge. His *Materialism and Empirio-Criticism* is almost entirely devoted to epistemology and was composed for the express purpose of combatting the influence of Machism within the Bolševik party. However, Lenin undoubtedly drew inspiration from the works of Marx and Engels. Marx describes our ideas as reflections of the material world[136]

and Engels repeats the same idea, speaking now of the evolution of the universe and of its reflection in the human mind[137], and again of religion as a fantastic reflection of natural forces in man's mind.[138]

Though the notion that thought is a reflection of being is already present in the writings of Marx and Engels, Lenin, in his polemic with the Russian Machists, elaborated it further and gave it new emphasis. The statement that thought is a reflection of being is Lenin's definition of the content of thought[139]; it is a corollary to the assertion that matter is primary and thought derived, and expresses the dependence of thought on matter.

The theory of reflection is furthermore a corollary to Lenin's definition of matter as "the objective reality given to us in sensation". Matter is defined in terms of consciousness and consciousness in terms of matter.[140] This, in effect, makes matter and consciousness co-relative terms and opposes them. Lenin further underscores the opposition between matter and consciousness by stating that the concepts "being and thinking", "matter and sensation", "physical and mental" are the "ultimate" (*poslednye*) and "most comprehensive" (*samye širokie*) concepts in epistemology. This would mean that they are therefore ultimately undefinable.[141]

To say that "being and thinking", "matter and sensation", "physical and mental" are the ultimate and most comprehensive concepts, irreducible to a single higher or more comprehensive concept, implies that the realities corresponding to these concepts are irreconcilably opposed. Thus Lenin's theory of knowledge begins with an affirmation of the peculiar nature of the psychic and a duality of matter and spirit.

Lenin, however, qualifies this first proposition by stating that the opposition (*protivopoložnost'*) and consequent duality of matter and spirit has absolute significance (*absoljutnoe značenie*) only within the limits of epistemology; that is to say, outside these limits there is no such opposition: "to operate beyond these limits with a distinction between matter and mind, physical and mental, as though they were absolute opposites, would be a great mistake".[142] In other words, for Lenin, the opposition or duality of matter and mind is fundamentally a duality of knower and thing known.

This is borne out by Lenin's further assertion that the ability to reflect, which is characteristic of consciousness or thought, is in some faint way shared by all matter. This is the theory of reflection as a 'general property

of all matter'. It is to be noted that Lenin does not assert that all matter is conscious; in fact he explicitly rejects this assertion. What he does state is that "all matter possesses a property which is essentially akin to sensation, the property of reflection".[143] Though "in its well-defined form sensation is associated only with the higher forms of matter" one can "surmise" (*možno predpologat'*) "in the foundation of the structure of matter" something – Lenin calls it a "faculty" – which in some way foreshadows consciousness as it later evolves in man.[144] The theory of reflection as a general property of matter draws matter and thought closer together on the ontological plane and thereby attempts to counterbalance the opposition which he affirms on the level of epistemology.

The theory of reflection is relatively undeveloped in the writings of Lenin, but Soviet philosophers have elaborated it and made it into one of the cornerstones of Soviet epistemology and psychology.[145]

The significance of the Leninist theory of reflection for psychology is that it seems to offer a formula for the reconciliation of the transcendent nature of thought with dialectical materialism's monistic ontology.[146] By admitting a duality of matter and consciousness on the level of epistemology, the Leninist theory of reflection avoids the 'mechanist' danger of reducing thought to matter while, by limiting this duality to the realm of epistemology, it safeguards the material unity of reality. However, the question is: Is this a genuine or merely a verbal solution to the problem of reconciling a monist ontology with a dualist epistemology? For Lenin, the duality of matter and consciousness seems to be nothing more than a duality of knower and known. Moreover, the assertion that reflection is a general property of matter reduces this duality ultimately to a duality of two material, interacting things. The transcendence of knowledge over matter, which the theory of reflection is intended to safeguard, is thereby lost. Lenin offers no solution to the problem of the ideal nature of thought, and Soviet philosophers and psychologists, who have inherited this problem, have been hard pressed to find a satisfactory answer on the basis of Lenin's teaching.

4. Conclusion on Marxist-Leninist Philosophy

Having briefly expounded the conception of materialism, dialectics, and the theory of knowledge of the 'Classics' of Marxism-Leninism, it is now possible to discuss their relevance for psychology.

We have already drawn attention to the fact that psychological problems are not discussed systematically or at any great length by Marx, Engels or Lenin. All we have is a number of cryptic remarks, made in passing when dealing with other problems, and the general principles of materialism, dialectics and theory of knowledge. On this, none too clearly defined, foundation Soviet psychologists have attempted to construct a theoretical framework for Soviet psychology. Nonetheless, it is possible to draw a number of important conclusions, of psychological relevance, from the works of the 'Classics'.

In the first place, it is obvious that the 'Classics' are primarily concerned with the problem of the relation of the psychic to the material world. Secondly, this problem has, for the 'Classics', an *ontological* and an *epistemological* aspect.

From the point of view of *ontology*, dialectical materialism affirms that reality is made up exclusively of matter and what depends on matter. Hence there is no non-material substance; matter is the only substance. However, there are non-material *phenomena*; but these only exist in dependence on matter. Such phenomena are psychic phenomena. Psychic phenomena are the products of highly organized matter.

Psychic phenomena are said to be products of matter because: (a) they only arise at the end of a long process of evolution of the material world; (b) they are always the products of the normal functioning of the brain and nervous system. Considered as products of the functioning of the brain, they are variously classified as "products of the brain"[147], as a "form of the motion of matter"[148], or as a "property of matter in motion".[149]

Though products of matter, psychic phenomena can in no way be reduced to physical, chemical or even physiological processes. The material world is dialectical in nature; it is made up of different levels of motion, in such a way that the higher levels (in this case the level of the psychic) cannot be reduced to, or explained by the laws of the lower level.

From the point of view of *epistemology*, the psychic appears as an ideal reflection of the material world. On this level, the two aspects of the psychic, already in evidence on the ontological level are also present: its connection with the material world and its immateriality. As an *ideal* image of the material world it is non-material, but as a reflection of material reality it is dependent on the material object it reflects. In this

connection, Soviet psychologists frequently quote the statement of Marx: *"Bewusstsein ist bewusstgewordenes sein"*.[150]

At the same time the psychic is no passive epiphenomenon. It is, of its very nature, ordained to practice. Its role is to guide and direct the activity by which man changes his environment.

The two aspects of the psychic – the ontological and epistemological – are complementary. Hence Soviet psychologists continually insist that neither of these aspects can be studied in isolation. To attempt to do so is to run the risk of falling into crude materialism on the one hand, by reducing the psychic to the physiological, or into idealism, on the other, by making the psychic independent of matter.

D. PAVLOVISM AND MARXIST-LENINIST PHILOSOPHY

Official Soviet literature presents Pavlovian physiology and Marxist-Leninist philosophy as two complementary systems. It is claimed that Pavlov's teaching provides the natural-science foundation for materialist psychology and, in particular, for the Leninist theory of reflection. This claim will be further discussed in the body of this work, but from what has already been said the following conclusions may be drawn.

There is certainly a similarity between the Leninist theory of reflection and Pavlov's doctrine of higher nervous activity. Both present psychic phenomena as a reaction of the organism to the stimuli of the outer world, and both insist that this reflection is not a passive reception of impressions but is an active response on the part of the organism. The effect of the outer impulse is conditioned by the inner regularities of the organism.

Again both systems are monist; they are united in excluding the possibility of having recourse to any non-material substance as the basis for psychic phenomena. But for Pavlov this exclusion is a scientific axiom while for Marxism-Leninism it is founded on philosophical materialism. However, the most important difference between Pavlovism and Marxism-Leninism is that Pavlov's treatment of the psychic is basically mechanistic and reductionist, whereas that of Marxism-Leninism is dialectical and consequently anti-mechanist and anti-reductionist. Soviet psychology is in consequence founded partly on a mechanist system which is not materialist, and partly on a materialist system which is not

mechanist. From this point of view there is an irreconcilable opposition between the two traditions on which Soviet psychology is founded and which, as we shall see, has resisted all attempts of Soviet psychologists to form a higher synthesis.

REFERENCES

[1] According to the *Large Soviet Encyclopaedia*: "Naučnaja psixologija stroitsja na osnove dialektiko-materialistič. učenija o neotdelimosti psixičeskogo ot fizičeskogo i priznanija ego specifičnosti, determinirovannosti psixiki uslovijami žizni, podčinennosti ee ob"ektivnym zakonam i ee važnogo žiznennogo značenija. Teoretič. osnovoj psixologii javljaetsja marksistsko-leninskaja teorija otraženija; ee estestvenno-naučnym fundamentom – pavlovskoe učenie o vysšej nervnoj dejatel'nosti. ...

"Edinststvenno pravil'noj teoretič. osnovoj dlja razvitija naučnoj psixologii javljaetsja dialektičeskii materializm, založivsij pročnuju metodologič. osnovannie psixologii. Svoe estestvenno-naučnoe obosnovanie psixologija polučila v issledovanijax velikogo russkogo učenogo I. P. Pavlov, k-ryi, razvivaja idei I. M. Sečenova, éksperimental'nym putem vskryl osnovnye zakonomernosti raboty golovnogo mozga životnyx i čeloveka." (Scientific psychology is constructed on the basis of the dialectical-materialist doctrines of the inseparability of the psychic from the physical and the recognition of its [the psychic's] specificity, its subordination to objective laws and its important significance for life. The theoretical basis of psychology is the Marxist-Leninist theory of reflection; its natural-science foundation is the Pavlovian doctrine of higher nervous activity. ...

The only correct theoretical basis for the development of scientific psychology is dialectical materialism which provides the methodological foundation for psychology. Psychology has received its natural-science confirmation in the investigations of the great Russian scholar I. P. Pavlov who developed the ideas of I. M. Sečenov and discovered experimentally the basic laws governing the work of the animal and human brain.) 'Psixologija', *Bol'šaja sovetskaja énciklopedija*, 2ja izd., M. 1955 (henceforward: *BSE*), t. 35, pp. 238, 240.

The same idea is expressed in the *Shorter Philosophical Dictionary* (1954): "Filosofskie osnovy posledovatel'no materialističeskoj psixologii byli, vpervye sozdanny v seredine XIX v. Marksom i Engel'som. Psixologija kak nauka, osnovyvajuščajasja na teorii dialektičeskogo i istoričeskogo materializma, korennym obrazom otličaetsja ot psixologii buržuaznoj i predstavljaet soboj kačestvenno novyj étap v razvitii psixologii....

Učenie I. P. Pavlova o vysšej nernoj dejatel'nosti javljaetsja pročnym estestvenno-naučnym fundamentom dlja psixologii..." (The philosophical foundations of a consistent materialist psychology were first laid down in the middle of the nineteenth century by Marx and Engels. Psychology as a science founded on the theory of dialectical and historical materialism, differs radically from bourgeois psychology and represents a qualitatively new stage in the development of psychology. ...

The teaching of I. P. Pavlov on higher nervous activity provides the firm natural-science foundation for psychology.) 'Psixologija', in M. Rozental' i P. Judin (red.), *Kratkij filosofskij slovar'*, M. 1954, pp. 495–496.

Much the same teaching is to be found in the *Philosophical Dictionary* (1963): "Psixologija kak nauka, osnovannaja na dialektičeskom materializme, složilas' v SSSR. Ona predstavljaet soboj istoričeski novyj étap v razvitii psixologii. Naučnaja psixo-

logija isxodit iz marksistsko-leninskoj teorii poznanija i svoej estestvennonaučnoj osnovoj imeet reflektornuju teoriju psixičeskogo, vydvinutuju Sečenovym i razvituju I. Pavlovym." (Psychology, as a science founded on dialectical materialism, came to be in the USSR. It represents a new historical stage in the development of psychology. Scientific psychology takes as its starting point the Marxist-Leninist theory of knowledge and has as its natural-scientific basis the reflex theory of the psychic put forward by *Sečenov* and elaborated by I. Pavlov.) 'Psixologija', in M. Rozental' i P. Judin (red.), *Filosofskij slovar'*, M. 1963, pp. 374–375.

[2] The best account of the history of materialism is contained in Friedrich Albert Lange, *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart*, 2 Bd., 9th ed., Leipzig 1914–21 (English trans. by Ernest Chester Thomas: *History of Materialism*, 2 vols., 3rd ed., London 1925). For other useful accounts see William McDougall, *Body and Mind – a History of Animism*, 7th ed., London 1928; Gardner Murphy, *Historical Introduction to Modern Psychology*, 5th ed., London 1949. George S. Brett, *A History of Psychology*, 3 vols., London 1914–21; A. N. Whitehead, *Science and the Modern World*, Cambridge 1943.

[3] René Descartes, *Meditationes*, vi. *Oeuvres*, publ. by Charles Adam and Paul Tannery in 12 vols., vol. VII, p. 78.

[4] Descartes, *Principia Philosophiae*, I, 8. *Oeuvres*. vol. VIII, p. 7.

[5] Descartes, *Les Passions de l'Âme*, I, 7. *Oeuvres*, vol. XI, pp. 330–331.

[6] Cf. Gustav Wetter, *Dialectical Materialism. A Historical and Systematic Survey of Philosophy in the Soviet Union* (trans. from German by Peter Heath), London 1958, part 1, Ch. 1 (henceforward: Wetter, *Diamat*). Also J. M. Bocheński, *Der Sowjetrussische dialektische Materialismus* (*Diamat*), Bern 1960, Ch. 1 (henceforward: Bocheński, *Diamat*).

[7] Cf. Friedrich Ueberweg, *Grundriss der Geschichte der Philosophie*. Vierter Teil: *Die deutsche Philosophie des neunzehnten Jahrhunderts und der Gegenwart*, 12. Auflage, völlig bearbeitet von Dr. Traugott Konstantin Österreich, Berlin 1923, pp. 287–288.

[8] Cf. Gardner Murphy, *Historical Introduction to Psychology*, Chs. 10 and 13.

[9] For biographical information on Sečenov see I. M. Sečenov, *Avtobiografičeskie zapiski* [Autobiographical Notes], M. 1952; 'Sečenov, Ivan Mixajlovič', *BSE*, t. 38, M. 1955, pp. 623–626; X. S. Koštojanc, *I. M. Sečenov*, M. 1950; X. S. Koštojanc, 'I. M. Sečenov', in I. Sechenov, *Selected Physiological and Psychological Works*, M., undated.

[10] Sečenov, *Refleksy golovnogo mozga* (henceforward: *Refleksy*); *Komu i kak razrabotyvat' psixologiju?* (henceforward: *Komu i kak*). *Elementy mysli*. These three works are contained in t. 1 of I. M. Sečenov, *Izbranye proizvedenija* [Selected Works], 2 t., M. 1952–56. English trans. of t. 1 by S. Belskij: *I. Sechenov: Selected Physiological and Psychological Works*, M., undated. References to this trans. are given in brackets.

[11] Sečenov, *Refleksy, Izb. proiz.* t. 1, p. 9 (32–33).

[12] *Ibid.*

[13] *Ibid.*, ch. 1, passim.

[14] *Ibid.*, p. 123 (137).

[15] *Ibid.*, p. 94 (110).

[16] *Ibid.*, p. 75 (93).

[17] Sečenov, *Komu i kak*, *ibid.*, p. 190 (194).

[18] *Ibid.*, p. 204 (206).

[19] *Ibid.*, p. 190 (194).

[20] *Ibid.*, p. 193 (197).

[21] *Ibid.*, p. 195 (198).
[22] "Itak, *net ni edinoj myslimoj storony, kotoroju nizšie produktu dejatel'nosti organov čustv suščestvenno otličalis' by ot reflektornyx processov tela, – vse raznicy meždu nimi čisto količestvennogo svojstva.* Otsjuda že neobxodimo sleduet, čto *somatičeskie nervnye processy i nizšie formy psixičeskix javlenij, vytekajuščie iz dejatel'nostej vysšix organov čuvstv, rodstvenny meždu soboju po prirode*", *ibid.*, p. 189 (194).
[23] *Ibid.*, p. 180 (185–186); 190 (194).
[24] "... *somatičeskie nervnye processy rodstvenny so vsemi voobšče psixičeskimi javlenijami, imejuščim korni v dejatel'nostjax organov čustv, k kakomu by porjadku javlenija éti ni prinadležali*", *ibid.*, p. 190 (194).
[25] "Jasnoj granicy meždu zavedomo somatičeskimi, t.e. telesnymi, nervnymi aktemi i javlenijami, kotorye vsemi priznajutsja uže psixičeskimi, ne suščestvuet ni v odnom myslimom otnošenii", *ibid.*, pp. 179–180 (185).
[26] Sečenov, *Refleksy, Izb. proiz.*, p. 9 (33).
[27] *Ibid.*
[28] Sečenov, *Komu i kak, Izb. proiz.*, p. 195 (198).
[29] Cf. S. L. Rubinštejn (red.), *I. M. Sečenov i materialističeskaja psixologija* [I. M. Sečenov and Materialist Psychology], M. 1957.
[30] I. P. Pavlov, *Polnoe sobranie sočinenie* [Complete Collected Works], t. 6, M. 1951, p. 266. Quoted by X. Koštojanc, 'I. Sechenov 1829–1905', in I. Sechenov, *Selected Physiological and Psychological Works*, M., undated, p. 21.
[31] For biographical data on Bexterev see 'Bexterev, Vladimir Mixajlovič', *BSE.* t. 5, M. 1950, pp. 124–126; V. P. Osipov, *Bexterev* (1857–1927). *Žizn' i dejatel'nost'* [Life and Work], M. 1947.
[32] Bexterev, *Provodjaščie puti spinonogo i golovnogo mozga* (1893); *Osnovy učenija o funkcijax mozga* (1903); *Objektivnaja psixologija* (1907); *Obščie osnovy refleksologii čeloveka* (1917); *Kollektivnaja refleksologija* (1921); *Mozg i ego dejatel'nost'* (1928). Owing to the difficulty in obtaining the works of Bexterev in Russian, references have been made to the English trans. *General Principles of Human Reflexology*, London 1933 (henceforward: Bexterev, *General Principles*).
[33] Bexterev, *General Principles*, p. 21.
[34] *Ibid.*, p. 63.
[35] *Ibid.*
[36] *Ibid.*, p. 62.
[37] *Ibid.*, p. 33.
[38] *Ibid.*, pp. 33–35.
[39] *Ibid.*, p. 105.
[40] *Ibid.*, p. 98.
[41] *Ibid.*, p. 21.
[42] *Ibid.*
[43] *Ibid.*, pp. 101–102.
[44] Cf. Ch. II.
[45] I. P. Pavlov, *Polnoe sobranie sočinennij* [Complete Collected Works], t. 1–6, M. 1951 (henceforward: Pavlov, *Sočinennij*). T. 3, kng. 1–2 contains *Dvatcati letnij opyt ob"ektivnogo izučenija vysšej nervnoj dejatel'nosti životnyx*. English trans. by W. Horsley Gannt: *Lectures on Conditioned Reflexes. Twenty-Five Years of Objective Study of the Higher Nervous Activity of Animals*, vols. 1-2, London 1963 (henceforward: Pavlov-Gannt, *Lectures*). T. 4 of the *Sočinennij* contains *Lekcii o rabote bol'šix polušary golovnogo mozga*. English trans. by G. V. Anrep: *Conditioned Reflexes. An Investigation*

of the Physiological Activity of the Cerebral Cortex, London and N.Y. 1960. References to Pavlov's works are made to the ed. of the *Sočinennie* given above. Quotations in English in the text are taken from the above-mentioned translations.

[46] For biographical information on Pavlov cf.: 'Pavlov, Ivan Petrovič', *BSE*, t. 31, M. 1955. pp. 516–519; E. A. Astratjan, *I. P. Pavlov. Žizn' i naučnoe tvorčestvo*, M.-L. 1949; P. K. Anoxin, *Ivan Petrovič Pavlov. Žizn', dejatel'nost' i naučnaja škola*, M.-L. 1949.

[47] Cf. Pavlov-Gannt, *Lectures*, vol. 2, p. 11.

[48] Pavlov, *Sočinennij*, t. 3, kng. 1, p. 13 (Pavlov-Gannt, *Lectures*, vol. 1, p. 37).

[49] *Ibid.*, kng. 1, p. 42 (vol. 1, p. 62).

[50] In the preface to the first Russian edition Pavlov describes the early attempts of one of his chief collaborators, Dr. Snarskij, to explain the phenomenon of psychic stimulation in terms of the subjective states of the dog, assuming that "the internal world of the dog – its thoughts, feelings and desires – is analogous to ours", *ibid.*, kng. 1, p. 13 (vol. 1, p. 37).

[51] *Ibid.*, kng. 1, p. 27 (vol. 1, p. 50).

[52] *Ibid.*, kng. 1, p. 14 (vol. 1, p. 39).

[53] Pavlov defines the reflex as "reakcija organizma na vnešnij mir, proisxodjaščaja pri posredstve nervoi sistemy, pričem vnešnij agent, transformirujac' v nervnyj process, po dlinnoj doroge ... dostigaet togo ili drugogo organa, vyzyvaja ego dejatel'nost'". (A reaction of the organism to the external world, effected through the nervous system, by which an external stimulus is transformed into a nervous process and transmitted along a circuitous route ... until, reaching one or other organ, it excites its activity). *Ibid.*, kng. 1, p. 66–67 (vol. 1, p. 83).

[54] *Ibid.*, kng. 1. Cf. Ch. 4 for a discussion of the reflex nature of so-called 'psychic secretion'.

[55] *Ibid.*, kng. 1, p. 18 (vol. 1, p. 42). The Russian term 'uslovnyj refleks' means literally *conditional* reflex, but it has become standard in English to translate it as *conditioned* reflex.

[56] *Ibid.*, kng. 1, p. 42 (vol. 1, p. 62).

[57] *Ibid.*, kng. 2, p. 79–80 (vol. 1, p. 372).

[58] *Ibid.*, kng. 1, p. 62 (vol. 1, p. 79).

[59] *Ibid.*, kng. 1, p. 35 (vol. 1, p. 56).

[60] *Ibid.*, kng. 1, p. 84 (vol. 1, p. 98).

[61] *Ibid.*, kng. 2, p. 52 (vol. 1, p. 354).

[62] *Ibid.*, kng. 2, p. 384 (vol. 2, p. 60).

[63] *Ibid.*, kng. 2, p. 214–215 (vol. 2, p. 113–114).

[64] *Ibid.*

[65] *Ibid.*

[66] *Ibid.*, kng. 2, p. 336 (vol. 2, p. 179).

[67] Cf. Ch. II.

[68] N.P. Antonov, 'Dialektičeskij materializm – teoretičeskaja osnova psixologii' [Dialectical Materialism is the Theoretical Foundation of Psychology], *VF*, 1953,1, 195.

[69] Pavlov, *Sočinennij*, t. 3, kng. 2, p. 243 (vol. 2, p. 149).

[70] *Ibid.* Cf. also: *Ibid.*, kng. 2, p. 151–152 (vol. 2, pp. 71–72).

[71] Pavlov-Gannt, *Lectures*, vol. 2, p. 24. Pavlov himself writes: "Čelovek est' konečno, sistema (grubee govorja – mašina), kak i vsjakaja drugaja v prirode, podčinjajuščajasja neizbežnym i edinym dlja vsej priorody zakonam; no sistema, v gorizonte našego soveremennogo naučnogo videnija edinstvennaja po vysočajšemu samoregulirovaniju." (Man is of course a system – roughly speaking, a machine – like every other system in

nature subject to the unescapable and uniform laws of all nature; but the human system, in the horizon of our contemporary scientific view, is unique in being most highly self-regulatory.) Pavlov, *Sočinennij*, t. 3, kng. 2, p. 187 (Pavlov-Gannt, *Lectures*, vol. 2, p. 144).

[72] *Ibid.*, kng. 2, p. 322 (vol. 2, pp. 167–168).

[73] *Ibid.*, kng. 1, p. 246 (vol. 1, p. 221).

[74] *Ibid.*, kng. 2, p. 153 (vol. 2, p. 117).

[75] Antonov, *op. cit.*, p. 198.

[76] Pavlov-Gannt, *Lectures*, vol. 2, p. 28.

[77] "Takim obrazom vsja žizn' ot prostejšix do složnejšix organizmov, vključaja, konečno, i čeloveka, est' dlinnyi rjad vse usložnjajuščixsja do vysočajšej stepeni upravnovešivanij vnešnej sredy. Pridet vremja – pust' otdalennoe – kogda matematičeskij analiz, opirajas' na estestvennonaučnyj, oxvatit veličestvennymi formulami upravenij vse éti uravnovešivanija, vključaja v nix, nakonec, i samogo sebja." (In this way then is all life, from that of the simplest to the most complex organism, including man, a long series of more and more complicated *equilibrations* with the outer world. The time will come, be it ever so distant, when mathematical analysis, based on natural science, will include in majestic formulae all these equilibrations and, finally, itself.) Pavlov, *Sočinennij*, t. 3, kng. 1, p. 124–125 (Pavlov-Gannt, *Lectures*, vol. 1, p. 129).

[78] *Ibid.*, kng. 1, p. 246 (vol. 1, p. 221).

[79] "V otličie ot mnogix drugix korifeev estestvoznanija XIX i XX vv., Pavlov byl ne stixijnym, a soznatel'nym materialistom." (Unlike many other leading scientists of the 19th and 20th centuries, Pavlov was not merely a spontaneous but a conscious materialist.) E. A. Astratjan, *Ivan Petrovič Pavlov. K desjatiletiju so dnja smerti (1936–1946)* [Ivan Petrovič Pavlov. On the Tenth Anniversary of his Death 1936–1946], M. 1946, p. 28. Cf. also G. F. Aleksandrov, 'Vystuplenie', *Naučnaja sessija posvjaščennaja problemam fizologičeskogo učenija akademika I. P. Pavlova. Stenografičeskij otčet*, M. 1950, p. 282–292 (henceforward: *Naučnaja sessija*).

[80] Statement made by Pavlov in 1931. Reported by F. P. Majorov, 'O mirovozzrenii I. P. Pavlova' [On the World-Outlook of I. P. Pavlov], *Vestnik Akademii Nauk*, 1936,3, 14. Quoted by Wetter, *Diamat*, p. 141.

[81] *Naučnaja sessija*, p. 521.

[82] John F. Fulton, 'Ivan Petrovič Pavlov', *New England Journal of Medicine*, **214**, no. 10 (March 5, 1936), p. 5. Quoted by W. H. Gannt, Pavlov-Gannt, *Lectures*, vol. 2, p. 30.

[83] Quoted by W. H. Gannt, *ibid.*, vol. 2, p. 22.

[84] The relationship between the writings of the 'Classics' is more complex than here described. For a fuller account cf. Bocheński, *Diamat*, p. 13.

[85] Cf. *Osnovy marksistskoj filosofii*, M. 1963, p. 9.

[86] Cf. Ch. II.

[87] Cf. Maximilian Rubel, *Karl Marx, Essai de Biographie Intellectuelle*, Paris 1956; Jean-Yves Calvez, *La Pensée de Karl Marx*, Paris 1956 (this last-mentioned work contains a comprehensive bibliography); Georges Cottier, *L'Athéisme du Jeune Marx. Ses Origines Hégéliennes*, Paris 1959. Where possible, references to the works of Marx have been made to the *Marx Werke* (ed. by Joachim Lieber, Peter Furth and Benedikt Kautsky), Darmstadt 1962 (henceforward: *MW*). For those writings of Marx which have not yet appeared in this series, reference has been made to Karl Marx, Friedrich Engels, *Werke*, Berlin 1958– (henceforward: *MEW*).

[88] "Bei Marx fanden sich so wenig geeignete Zitate zur Fundierung des 'Diamat',

dass sich Stalin nicht scheute, eine Beschreibung des Hobbesschen Materialismus durch als Äusserung von Marx selbst auszugeben und in den 'Katechismus' (*Über dialektischen und historischen Materialismus*, 1938) aufzunehmen." Iring Fetscher, *Der Marxismus. Seine Geschichte in Dokumenten*, Bd. 1: *Philosophie Ideologie*, München 1962, p. 256.

[89] Cf. F. Engels, *Herrn Eugen Dührings Umwälzung der Wissenschaft*, *MEW*, Bd. 20, p. 26 (henceforward: Engels, *Anti-Dühring*).

[90] "Die Produktionsweise des materiellen Lebens bedingt den sozialen, politischen und geistigen Lebensprozess überhaupt. Es ist nicht das Bewusstsein der Menschen, dass ihr Sein, sondern umgekehrt ihr gesellschaftliches Sein, dass ihr Bewusstsein bestimmt." K. Marx, *Vorwort zur Kritik der politischen Oekonomie*, *MW*, Bd. 4, p. 839.

[91] *Ibid.*, p. 838.

[92] *Ibid.*

[93] K. Marx, F. Engels, *Die Deutsche Ideologie. Kritik der neuesten deutschen Philosophie in ihren Repräsentanten Feuerbach, B. Bauer und Stirner, und des deutschen Sozialismus in seinen verschiedenen Propheten*, *MEW*, Bd. 3, p. 63 (henceforward: Marx, Engels, *Deutsche Ideologie*).

[94] K. Marx, *Das Kapital. Kritik der Politischen Oekonomie*, Bd. 1, *MW*, Bd. 4, p. 425 (henceforward: Marx, *Kapital*).

[95] This is the burden of Marx' critique of Hegel in *Kritik des hegelschen Staatsrechts*, *MW*, Bd. 1. Cf. especially p. 279, pp. 283–297.

[96] "Bei mir ist umgekehrt das Ideelle nichts anderes als das im Menschenkopf umgesetzte und übersetzte Materielle." Marx, *Kapital*, p. XXVI.

[97] *Ibid.*, p. XXVIII.

[98] K. Marx, F. Engels, *Die Heilige Familie oder Kritik der kritischen Kritik*, *MEW*, Bd. 2, p. 138.

[99] "Auch die Nebelbildungen im Gehirn der Menschen sind notwendige Sublimate ihres materiellen, empirischen konstatirbaren und an materielle Voraussetzungen geknüpften Lebensprozesses." Marx, Engels, *Deutsche Ideologie*, p. 36.

[100] Cf. Gustav Mayer, *Friedrich Engels: Eine Biographie*, 2 Bd. (English trans.: 1 vol., London 1935).

[101] F. Engels, *Ludwig Feuerbach und der Ausgang der klassischen deutschen Philosophie*, *MEW*, Bd. 21, p. 275.

[102] Marx, *Kritik der Hegelschen Dialektik und Philosophie*, *MW*, Bd. 1, p. 662.

[103] "Es handelte sich bei dieser meiner Recapitulation der Mathematik und der Naturwissenschaften selbstredend darum, mich auch im einzelnen zu überzeugen – woran im allgemeinen kein Zweifel für mich war –, dass in der Natur dieselben dialektischen Bewegungsgesetzte im Gewirr der zahllosen Veränderungen sich durchsetzen, die auch in der Geschichte die scheinbare Zufälligkeit der Ereignisse beherrschen." Engels, *Anti-Dühring*, p. 11.

[104] *Ibid.*, p. 41.

[105] Engels, *Dialektik der Natur*, *MEW*, Bd. 20, p. 327.

[106] Engels, *Vorarbeiten zum 'Anti-Dühring'*, *MEW*, Bd. 20, p. 575.

[107] Engels, *Dialektik der Natur*, p. 479.

[108] Engels, *Anti-Dühring*, p. 33.

[109] "Bewegung in dem allgemeinsten Sinn, in dem als Daseinsweise, als inhärentes Attribut der Materie gefasst wird, begreift alle im Universum vorgehenden Veränderungen und Prozesse in sich, von der blossen Ortsveränderung bis zum Denken." Engels, *Dialektik der Natur*, p. 354. Cf. also *ibid.*, p. 513.

[110] For biographical information on Lenin cf. David Shub, *Lenin. A Biography*, New York 1949; Gérard Walter, *Lénine*, Paris 1950. – References to the works of Lenin are to V. I. Lenin, *Polnoe sobranie sočinenij* [Complete Collected Works], Izd. 5, M. 1958–. T. 18 contains *Materializm i émpiriokriticizm* (henceforward: Lenin, *Materializm*). English trans.: *Materialism and Empirio-Criticism*, M. 1952. T. 29 contains *Filosofskie Tetradi* (henceforward: Lenin, *Tetradi*). English trans.: *Philosophical Notebooks*. V. I. Lenin, *Collected Works*, vol. 38, M. 1961. Both translations are from the 4th Russian edition. Quotations in English in the text are taken from these translations. References to these are given in brackets.
[111] Lenin, *Materializm*, p. 117 (118).
[112] *Ibid.*, p. 356 (350).
[113] *Ibid.*, p. 273 (267).
[114] *Ibid.*, p. 275 (267).
[115] *Ibid.*
[116] *Ibid.*, p. 131 (127).
[117] *Ibid.*, p. 239 (233).
[118] *Ibid.*, p. 84 (82).
[119] *Ibid.*, p. 257 (251).
[120] *Ibid.*, p. 151 (147).
[121] *Ibid.*, p. 41 (40).
[122] *Ibid.*, p. 46 (44).
[123] Lenin, *Čto takoe druz'ja narodov i kak oni vojujut protiv social demokratov?* [Who are the Friends of the People and How They Fight Against the Social Democrats?], *Sočinenij*, t. 1, p. 142.
[124] Engels, *Dialektik der Natur*, p. 332.
[125] Engels, *Anti-Dühring*, p. 19.
[126] The rarity of clear statements on materialism in the writings of Marx has already been alluded to (reference 88). The same can be said of Marx' statements on dialectics. As Calvez remarks, "A l'exception de quelques passages plus compacts qui se trouvent dans les *Manuscrits économico-philosophiques de 1844*, dans l'Introduction à la *Critique de l'économie politique* et dans la deuxième Préface du *Capital*, on est à peu près réduit, pour la mise en ordre des idées de Marx sur la dialectique comme science, à les inférer à partir de sa pratique." Jean-Yves Calvez, *La Pensée de Karl Marx*, Paris 1956, p. 347.
[127] Marx, *Kapital*, p. XXXI.
[128] Engels, *Anti-Dühring*, p. 22.
[129] *Ibid.*, p. 24.
[130] *Ibid.*
[131] *Ibid.*, p. 348.
[132] *Ibid.*
[133] *Ibid.*, pp. 349–352; *Anti-Dühring*, p. 42, 116ff.
[134] "... ebenso vollzieht sich der Übergang von der Physik der Moleküle zu der Physik der Atome – der Chemie – wieder durch einen entschiedenen Sprung, und noch mehr ist dies der Fall beim Übergang von gewöhnlicher chemischer Aktion zum Chemismus des Eiweisses, den wir Leben nennen." Engels, *Anti-Dühring*, p. 61.
[135] "Aus dem gleichen Missverständnis auch die Wut, alles auf mechanischen Bewegung zu reduzieren ... wodurch der spezifische Charakter der andern Bewegungsformen verwischt wird. Womit nicht gesagt sein soll, dass nicht jede höheren Bewegungsformen stets notwendig mit einer wirklichen mechanischen (äusserlichen oder molekulären) Bewegung verknüpft mag; gerade wie die höheren Bewegungsformen gleichzeitig auch

andere produzieren, chemische, thermische, elektrische etc. Änderung möglich. Aber die Anwesenheit dieser Nebenformen erschöpft nicht das Wesen der jedesmaligen Hauptform. Wir werden sicher das Denken einmal experimentell auf molekuläre und chemische Bewegungen im Gehirn 'reduzieren'; ist aber damit das Wesen des Denkens erschöpft?." Engels, *Dialektik der Natur*, p. 513.

136 Marx, *Kapital*, p. XXXI.

137 Engels, *Anti-Dühring*, p. 22.

138 *Ibid.*, p. 294.

139 "Mir est' zakonomernoe dviženie materii, i naše poznanie, buduči vyššim produktom prirody, v sostojanii tol'ko *otražat'* étu zakonomernost'." (The world is matter moving in conformity to law, and our knowledge, being the highest product of nature is in a position only to *reflect* this conformity.) Lenin, *Materializm*, p. 174 (170). – "Soznanie voobšče otražaet bytie – éto obščee položenie vsego materializma." (Consciousness in general *reflects* being – that is a general principle of materialism.) *Ibid.*, p. 343 (337).

140 "Materija est' filosofskaja kategorija dlja oboznačenija ob"ektivnoj real'nosti, kotoraja dana čeloveku v oščuščenijax ego, kotoraja kopiruetsja, fotografiruetsja, otobražaetsja našimi oščuščenijami, suščestvuja nezavisimo ot nix." (Matter is a philosophical category denoting the objective reality which is given to man by his sensations, and which is copied, photographed and reflected by our sensations, while existing independently of them.) *Ibid.*, p. 131 (127).

141 "Sprašivaetsja teper', est' li bolee širokie ponjatija s kotorymi mogla by operirovat' teorija poznanija, čem ponjatija: bytie i myšlenie, materija i oščuščenie, fizičeskoe i psixičeskoe? Net. Eto – predel'no širokie, samye širokie ponjatija, dal'še kotoryx po suti dela (esli ne imet' v vidu *vsegda* vozmožnyx izmenenij nomenklatury) ne pošla do six por gnoseologija." (The question then is, are there more comprehensive concepts, with which the theory of knowledge could operate, than those of being and thinking, matter and sensation, physical and mental? No. These are the ultimate concepts – the most comprehensive concepts which epistemology has in point of fact so far not surpassed (apart from changes in *nomenclature*, which are always possible).) *Ibid.*, p. 149 (145).

142 *Ibid.*, p. 259 (253).

143 *Ibid.*, p. 91 (88).

144 *Ibid.*, pp. 39–40 (38).

145 Cf. T. Pavlov, *Teorija otraženija. Osnovnye voprosy teorii poznanija dialektičeskogo materializma*. Kng. 1: *Edinstvo materii i soznanija* [Theory of Reflection. Basic Problems of the Theory of Knowledge of Dialectical Materialism. Bk. 1: The Unity of Matter and Consciousness], M. 1949; A. Kiselničev, *Marksistsko-leninskaja teorija otraženija i učenija I. P. Pavlova o vyššej nervnoj dejatel'nosti* [Marxist-Leninist Theory of Knowledge and I. P. Pavlov's Teaching on Higher Nervous Activity], M. 1956.

146 Cf. Blakeley, *Soviet Theory of Knowledge*, esp. Ch. 3.

147 Engels, *Anti-Dühring*, p. 33; Lenin, *Materializm*, p. 239 (233).

148 Engels, *Dialektik der Natur*, p. 354.

149 Lenin, *Materializm*, p. 41 (40).

150 Marx, Engels, *Deutsche Ideologie*, p. 26.

CHAPTER II

THE DEVELOPMENT OF PSYCHOLOGICAL THEORY IN THE SOVIET UNION

A. INTRODUCTION

The recognition of Marxist-Leninist philosophy and Pavlovian science as the two pillars of Soviet psychology was only accomplished at the end of a long period of discussion. All the major works of the 'Classics' predate the Revolution and the ideas of Pavlov and Bexterev were widely known, both in Russia and abroad, long before 1917. However, it was not until after 1930 that the full significance of dialectical materialism was recognized, and the call for the 'reconstruction' of psychology on the basis of Pavlovianism was not raised until 1950.

Our task in this chapter will be to trace the general lines of the development of the discussion on the nature of Soviet psychology giving particular attention to the psycho-physical problem.

Viewed in the light of the two traditions which form the basis of Soviet psychology, the historical development of psychological theory in the Soviet Union falls into three main periods. These may be presented schematically as follows[1]:

Mechanist Period 1917–30	A.	Elimination of 'Idealism': 1917–24
	B.	Predominance of Mechanism: 1924–30
Dialectical Period 1930–50	C.	Period of Transition: 1930–36
	D.	Triumph of Dialectics: 1936–50

Pavlovian Period – Attempt at Synthesis: since 1950.

Until the end of the nineteen-twenties the dominant trend in Soviet psychology was one of extreme mechanism and reductionism, although its ascendency was not entirely unopposed. From about 1930 onwards it

was gradually replaced by the so-called 'dialectical' trend which dominated the psychological scene until 1950 when the first trend re-asserted itself under the form of a new insistence on the teaching of Pavlov. However, it would be wrong to classify Soviet psychology after 1950 as merely a return to the extreme mechanism of the nineteen-twenties. The developments in psychological theory after 1950 can be best understood as an attempt to form a synthesis of 'dialectics' and 'Pavlovism'.

B. THE MECHANIST PERIOD: 1917–30

1. The Elimination of 'Idealism'[2]: 1917–24

The years immediately following the Revolution saw the gradual disappearance of many of the schools of psychological thought which had existed since the second half of the 19th century, but which were now considered incompatible with 'Marxism'.

Although Russian psychology had exhibited a strong objectivist trend since the time of Sečenov, most of the leading psychologists in Russia at the turn of the century were strongly influenced by the introspectionist theories current in European and American psychology at that time.

K. N. Kornilov (1879–1957), who was to play an important role in the subsequent development of Soviet psychology, divides these pre-Revolutionary schools into two groups: the *subjective-empiricists* and the *metaphysical school.*[3] In the first group he includes N. N. Lange (1858–1921), who founded at Odessa one of the first psychological laboratories in Russia, and A. P. Nečaev, who was responsible for the foundation of psychological laboratories in St. Petersburg and Kiev. Kornilov accuses this group of separating the psychic from the physiological and of proposing a dualism of spirit and matter.[4] In the second group Kornilov includes N. Ja. Grot (1852–99), L. M. Lopatin (1855–1920) and G. I. Čelpanov (1862–1936), all members of the Moscow Psychological Society, founded in 1885. The organ of this society was *Voprosy filosofii i psixologii* (Questions of Philosophy and Psychology), founded in 1890. The most famous member of this group is probably Čelpanov, who founded the Moscow Psychological Institute in 1912. According to Kornilov, the object of psychology, in the opinion of the latter group, was the study of the phenomena of spirit which they considered as a principle entirely independent of matter.[5]

The members of these older introspectionist schools came under heavy attack from the new generation of Soviet psychologists. In the early days of the Soviet State, when Soviet psychologists and philosophers were still divided on the principles of Marxism-Leninism, there was already a consensus of opinion among the new generation of psychologists that psychology must be 'materialist' and that the views of the introspectionists, which they branded as 'idealist', were incompatible with 'Marxism'. According to Kornilov, who at that time seems to have been the spokesman for the new school of Soviet psychology, 'materialism' meant for psychology the recognition of the fact that the psychic is a function of highly organized matter, the brain.

The replacement of Čelpanov as Director of the Moscow Psychological Institute in January 1924 by Kornilov marks the end of pre-Revolutionary introspectionist psychology and the beginning of the new 'Soviet' era in psychology.

2. The Predominance of Mechanism: 1924–30

The speech delivered by Kornilov at the first All-Russian Psychological Congress in January 1923 had sounded the death-knell for the older schools of Russian psychology.[6] Though Kornilov insisted in his address that the establishment of psychology on the basis of materialism did not mean the denial of the special nature of the psychic, the dominant trend in psychology in the nineteen-twenties was extreme mechanism.

It was inevitable that the establishment of materialism as the only acceptable philosophical basis for psychology should be followed by a wave of extreme 'objectivism' and mechanism. In the first place, the objective method already enjoyed wide popularity through the works of Pavlov and Bexterev.[7] The removal of the introspectionist schools left objectivism in almost undisputed possession of the psychological field. Moreover, this trend in Soviet psychology corresponded to the strong behaviouristic current which made itself felt in Western psychology immediately after the war.

Similarly, the struggle to purge psychology of 'idealism' and to place it on a firm 'materialist' foundation made all subjective concepts suspect. As Kornilov pointed out, many psychologists believed that consciousness could have no place in a truly materialist psychology, and that any at-

tempt to introduce subjective factors into the study of human behaviour was tantamount to idealism.[8]

The very possibility of psychology as an independent discipline was called into question. Both Pavlov and Bexterev adopted a view similar to Auguste Comte in their approach to the study of human behaviour. Human behaviour was considered as a bio-social phenomenon adequately covered by biology and sociology. In such a scheme psychology as the study of subjective events had no place.[9]

Of the two, Bexterev was the more militant in his opposition to psychology. He not only rejected the methodology of experimental psychology but refused even to use the name itself which, he considered, designated a more primitive stage in the study of human personality which had been superseded by his own science, Reflexology.[10] Pavlov, for the most part, stood aloof from these theoretical discussions, preferring to remain within the framework of experimental physiology. He was, however, openly sceptical of the scientific status of psychology.[11] Not all Pavlov's disciples were as modest in their claims as their master. C. P. Frolov, for example, declared that in the field of education, psychology should be replaced by Pavlovian physiology.[12]

The 'Reflexological'[13] movement in psychology did not go entirely unopposed. It was subjected to severe criticism by a group of psychologists at the Psychological Institute in Moscow headed by K. N. Kornilov. In a series of articles published in the periodical *Under the Banner of Marxism* between 1923 and 1927 Kornilov repeatedly accused the Reflexologists of mechanism and of deviation from the principles of Marxism.[14] Reviewing, in 1927[15], the progress which Soviet psychology had made in the ten years since the Revolution Kornilov charged that psychologists were still insufficiently aware of the full implications of Marxism for their science. According to Kornilov, Marxist psychology should be: (1) materialist, (2) determinist, (3) dialectical. While all Soviet psychologists had accepted the first two conditions – materialism and determinism –, many psychologists were still refusing to accept the principles of dialectics. Just as the natural scientists were divided into 'dialecticians' and 'mechanists' so too psychologists tended to be either dialecticians or extreme objectivists in their conception of human psychology and behaviour.

By 'dialectical' Kornilov meant the application of the laws of the

dialectic, as formulated by Engels, to psychology.[16] In Kornilov's opinion the most important consequence of the application of the dialectic to psychology was the acceptance of the irreducibility of the psychic to the physiological and the recognition of the role of subjective factors in human behaviour.[17] According to Kornilov Marxist psychology must "provide an organic synthesis of the objective and subjective in human behaviour".[18]

In his defence of the role of subjective factors in behaviour Kornilov drew heavily on the works of the 'Classics', particularly on the *Dialectics of Nature*. It is interesting to note that, in the earlier stages of the discussion at least, the 'Objectivists' had recourse to experimental data more frequently than to 'exegesis' of the 'Classics' in defence of their views. This, as we shall see, was not always to be the case in psychological debate.

As the true Marxist psychology Kornilov proposed his own system, Reactology, which he conceived as the study of man's reactions to the stimuli and demands of his environment. At first sight Kornilov's system does not seem to differ from that proposed by Bexterev and Pavlov. Like the latter, Kornilov holds that the primary object of psychological study must be man's external reactions to his environment. However, the difference lies in the fact that Kornilov did attempt to take subjective factors into consideration in the study of human behaviour. Kornilov was careful to distinguish between 'reactions' and 'reflexes'; the reflex is a "purely physiological conception deprived of every subjective content"[19], while the "conception of reactions includes, with the biological and formal quantitative elements inherent in the reflex, the whole wealth of qualitative, ideological content foreign to the conception of reflex".[20]

For all his insistence on the role of subjective factors, Kornilov's psychology remained fundamentally behaviouristic. Though he incorporated verbal reports into his experiments, he still insisted that "only the objective side of an experiment is sufficient guarantee of its authenticity".[21] The data of self-observation only possess significance in so far as they are corroborated by objective facts. Moreover, Kornilov was responsible for a number of statements on the nature of the psychic which were later to become the object of severe criticism. He stated, e.g., that "dialectical-materialism ... takes these [psychic] phenomena only as the subjective expression of the physical and physiological processes taking place in the organism, and having their objective, external expression in move-

ments".[22] These and similar statements left Kornilov open to the accusation of psychophysical parallelism and later criticism accused him of failure to achieve his declared goal of establishing psychology on a firm Marxist foundation.[23] However, it is generally admitted that, despite its shortcomings, Kornilov's work in the field of psychological theory was an important contribution to the development of Soviet psychology.[24] He provided an articulate criticism of extreme mechanism and his arguments against Bexterev caused the latter to mitigate somewhat his extreme mechanism and opposition to psychology.[25]

3. The Mechanist Controversy[26]

The struggle between mechanism and dialectics in psychology was only one episode in a wider controversy on the philosophical foundations of natural science. The philosophical heritage of the 'Classics' found general acceptance in the Soviet Union only as the result of a long period of debate and discussion which took place during the decade which followed the Revolution. From the very beginning there had been disagreement on the philosophical principles of Marxism. Lenin, e.g., wrote his *Materialism and Empirio-Criticism* to counteract the influence of Machism among Russian Marxists and at the time of the Second International there was considerable support for the view that Marxism was not a philosophy but a positive science.[27] Even within the Bolševik Party, Lenin's philosophy did not receive universal acceptance and the prevailing philosophy among its members was a brand of mechanistic materialism.[28]

Mechanism in one form or other remained the dominant trend in Soviet philosophy in the decade immediately following the Revolution, though it represented a trend of thought common to a large number of philosophers and natural scientists rather than a consciously coherent movement. In the course of the discussion on the philosophical foundations of science the term 'mechanist' was applied to writers of such dissident philosophic opinions as O. Minin, I. I. Stepanov, L. I. Aksel'rod, N. Buxarin, etc. It is true, nonetheless, that almost all those branded as mechanists shared a number of philosophical, or anti-philosophical, views in common. In the first place they shared a restrictive attitude towards philosophy as an independent discipline. O. Minin, e.g., in an article entitled 'Philosophy Overboard' denied philosophy any title to existence[29]; as did I. I. Stepanov.[30]

The Mechanists generally were opposed to the conception of dialectics proposed by their opponents. In the first place they rejected the idea of motion 'from within' as the result of the inner contradictions in things. All motion, they claimed, is 'from without', the result of an outer impulse. The most important characteristic of mechanism was its denial of the emergence of new qualities in reality: all change is fundamentally quantitative. Hand in hand with this view went a radical reductionism.[31]

Towards the middle of the nineteen-twenties the mechanists came under attack from a group of philosophers at the Communist Academy, headed by A. M. Deborin (real name: Joffe). While the mechanists relied on the data of natural science in support of their position, the Deborinists drew heavily on the works of the 'Classics', in particular on the works of Engels and Lenin. The latter were further aided by the publication, in 1925, of Engels' *Dialectics of Nature* and later, in 1929, by the appearance of Lenin's *Philosophical Notebooks.*

The Deborinists upheld the autonomy of philosophy and insisted on the necessity of bringing natural science into line with the principles of dialectical materialism. Many of the later mechanists, like Buxarin, described themselves as dialectical materialists and paid lip-service to the teaching of the 'Classics', but in practice there was little to distinguish their brand of dialectical materialism from mechanism. They claimed, however, that they were only following Marx' example in 'demystifying' Hegel.

The Deborinists insisted on retaining the most characteristic element in Hegel's dialectic, the 'dialectical leap' or the transformation of quantity into quality. In consequence they were vigorously opposed to reductionism. According to Deborin, the application of dialectics to natural science meant that "being, life and consciousness represent three fundamental levels or stages in the development of matter".[32] The fallacy of Mechanism consists in the fact that it "considers it possible to effect a simple derivation of the phenomena of consciousness and life from dead matter or 'being', but in so doing the specific character of these phenomena, as particular 'modes' and 'categories' is completely left out of account".[33]

The Mechanist–Deborinist controversy is one of the most tangled chapters in the history of Soviet thought, and it is not our purpose here to follow the course of the debate through all its convolutions. A major

source of confusion is the fact that the Mechanists never existed as a coherent group. The difference in philosophical opinion between individual Mechanists was often greater than that between the Mechanists and their Deborinist opponents. The practice, introduced after 1929, of grouping philosophers and scientists of varying opinions under the rubric of 'Mechanist' created the illusion that they formed a single school. The situation was further complicated by the imputation of political alignments to Mechanists and Deborinists alike.[34] What interests us here is the fact that the controversy in psychology between the supporters of a dialectical interpretation of psychic phenomena and those who favoured a mechanist and reductionist approach, ran parallel to a similar discussion in almost all branches of science and philosophy on the nature of dialectics and its application to natural science.[35] Though the debate in psychology was largely independent of the mechanist controversy, the defeat of Mechanism had important repercussions in the field of psychology.

In April 1929 the Second All-Union Conference of Marxist-Leninist Scientific Institutes was held in Moscow. The Conference was attended by representatives from the Communist Academy, the Lenin Institute, the Marx-Engels Institute, etc.[36] The subject for discussion was the Mechanist-Deborinist controversy. The Deborinists emerged victorious from the Conference, the Deborinist resolution that Mechanism is a "clear deviation from the Marxist-Leninist philosophical position"[37] having been unanimously adopted by the Conference. The Conference accused the Mechanists of "hindering the penetration of dialectical materialist methodology into natural science" and the discussion with the mechanists was considered to be closed.[38]

Just less than two years after the Conference, Deborin and his supporters came under attack in a joint condemnation of Mechanism and Deborinism issued by the Central Committee of the Party on January 25th, 1931. The Deborinists were accused of uncritically adopting Hegel's dialectic and of failure to subject it to a materialist transformation in the spirit of Marx. They were also taken to task for their lack of 'partisanship' in philosophy.[39] But the condemnation of 1931 left the main Deborinist thesis intact, namely, the necessity of applying the dialectic method to science and the consequent assertion of the irreducibility of higher-order phenomena to those of a lower order.

The condemnation of Mechanism in philosophy brought to an end the predominance of Mechanism in psychology. In January 1930, the Society of Materialist Psychoneurologists of the Communist Academy organised the First All-Union Conference on Human Behaviour to discuss the implications of the philosophical discussions for psychology. The Conference established the principle of the irreducibility of psychic events to the laws of physiology and effectively brought to an end the Mechanist period in Soviet psychology.[40] The year 1930 marks the beginning of the 'dialectical' stage in the history of Soviet psychology.

C. THE DIALECTICAL PERIOD: 1930–50

1. The Period of Transition: 1930–36

As a result of the Mechanist–Deborinist controversy, reductionism and mechanism were no longer officially acceptable in Soviet psychology. Although the First All-Union Conference on Human Behaviour proclaimed the allegiance of Soviet psychology to the principles of dialectics, the full implications of this initial act of faith were not immediately realized. From 1930 onwards Soviet psychologists endeavoured to construct a theoretical framework for their science, which took into account the full consequences of the new developments in Marxist-Leninist theory. The period between 1930 and 1936 was one of intense criticism in which all the existing schools of psychology were subjected to close examination to determine the degree of their conformity to the principles of Marxism-Leninism. The wide tolerance formerly accorded to theoretical discussion was replaced by increasing Party vigilance and, at times, direct intervention in philosophic discussions.

After 1930 the principle of 'dialectics' was firmly established in psychology and Kornilov, like Deborin, knew a short period of triumph. Kornilov's triumph was as short-lived as Deborin's. In the wave of criticism that swept psychology at the beginning of the nineteen-thirties Kornilov's ideas were tried and found wanting. As already mentioned, for all its insistence on dialectics and the irreducibility of the psychic, Reactology remained fundamentally behaviouristic and left Kornilov open to the charge of mechanism. Furthermore, the practical realization of Kornilov's grandiose scheme for a Marxist psychology did not live up to expectation. Moreover, his ideas had not kept pace with the advance

of psychological theory. A new element had been added to the discussion in the form of Lenin's theory of reflection. Lenin had already formulated all the elements of this theory in *Materialism and Empirio-Criticism* published in 1909, but the publication for the first time in 1929 of Lenin's *Philosophical Notebooks* occasioned a new interest in Lenin's theory of reflection. The theory, according to which consciousness is a reflection of the material world, not only emphasized the special nature of the psychic, but also underlined the active role of the psychic as the directive element in human behaviour. This notion had not received sufficient prominence in Kornilov's system.

Mention should also be made of another theoretical principle which won acceptance during the psychological discussions of the nineteen-thirties, namely, the principle of psychic development. This principle was formulated by a group of psychologists, headed by L. S. Vygotskij (1896–1934) about 1928.[41] Like Kornilov, Vygotskij defended the role of subjective factors in behaviour but added a new element to the discussion, namely, the "theory of cultural historical development". According to this theory man's consciousness is formed in the process of historical and social evolution and is, in consequence, a culturally conditioned entity and must be studied as such. In keeping with the principles of Marxism-Leninism, this development is conceived dialectically i.e. as made up of qualitatively distinct stages.

The theory of cultural development was the subject of a lively discussion about 1932[42], and Vygotskij and his associates were criticized for having failed to establish their ideas on a firm Marxist basis, for undervaluing the importance of consciousness and for uncritically borrowing from bourgeois systems.[43] However, the principle of historical development has remained one of the fundamental principles of Soviet psychology.

The period of transition was brought to an end in 1936 by the decree of the Central Committee of the Communist Party of the Soviet Union, dated July 4th, 1936, 'On the Pedological Distortions in the Commissariat of Education'.[44] As the result of this decree one final principle was added to the edifice of dialectical psychology. The new element added by the decree was the insistence on the role of training in the development of the child. It is perhaps inaccurate to call the principle 'new'. Pedology[45] had been under attack since the beginning of the nineteen-thirties but had proved more resistant to attack than the other ideas criticized during this

period. The effect of the decree of July 1936 was to establish what Bauer calls "the three-factor theory" as an axiom of Soviet psychological theory.

Active interest in the genetic study of child psychology dates from about 1925. In that year P. P. Blonskij (1884–1941) published a work entitled *Pedology*.[46] The science of pedology reached the peak of its popularity in 1928 when the First Russian Congress of Pedologists was held. One of the characteristics of pedology was its insistence on the use of tests designed to determine the level of intelligence and ability of the child. The principle factors determining the psychological development of the child were considered to be heredity and environment, and psychologists were divided among themselves on which was the predominant factor. The 'Biologists' (Blonskij, Arkin, Arjamov, etc.) held that inherited biological factors were the dominant element in development, the 'Sociologists' (Basov, Vygotskij, Moložavij, etc.) emphasized the role of the social environment, while a third group, the 'Biosociologists', attributed equal importance to both factors.[47]

Pedology was not received everywhere with the same unqualified enthusiasm. In 1928 Kornilov came out strongly against tests claiming that they lacked solid scientific substantiation and too often degenerated into "a game with jackstraws". Attacks on pedology increased during the methodological discussions of the early nineteen-thirties, but surprisingly enough, it managed to survive until its official condemnation in 1936.

If the resolution of the Central Committee is to be believed, it would seem that pedologists had tried to impose their ideas on Soviet education and in many cases gone so far as to usurp the role of the teacher. The decree went on to berate them for undermining the responsibility of the teacher and, by a negative attitude to so-called backward children, of relegating such children to special schools where their training "is entrusted to the least qualified educators. ... As a result, a great many children who, under conditions of normal school life, might easily adapt themselves to correction and become productive, conscientious, and disciplined students, under the conditions of these 'special schools' acquire bad habits and become even more difficult to correct."[48] The fundamental error of pedology was seen in the fact that it uncritically accepted the principles of "anti-scientific bourgeois pedology which has as its aim the preservation of a ruling class".[49]

However, the basic theoretical point at issue was that pedologists were understood to have asserted that the child's development was fatally determined by heredity and environment and to have ignored the important role of training in child-development. Only after the "pseudoscience of pedology" had been abolished would the "establishment of Marxist science of child development become possible".[50] The resolution of the Central Committee concluded by decreeing the restoration of pedagogy to its 'rightful place', the removal of pedological textbooks from circulation and the transfer of pedologists to the field of pedagogy as teachers.

The publication of the decree on pedology brought the period of transition to a close and established 'dialectical psychology' as the official formulation of Soviet psychological theory.

2. The Triumph of Dialectics: 1936–50

During the first half of the nineteen-thirties various proposals for a Marxist psychology, most of which had been formulated before 1930, were examined and found wanting. By 1936 the main lines of dialectical psychology had already been laid down and Soviet psychologists looked around for an acceptable formulation which would conform to the four basic principles established in the course of the psychological discussions and at the same time be firmly grounded on Marxism. Such a formulation had already been outlined in an article published in 1934 by S. L. Rubinštejn, an author who had hitherto taken no conspicuous part in the discussions.[51] At the time of publication Rubinštejn's article did not attract the attention it deserved[52] but in it Rubinštejn had already outlined the main points of what was to become the generally accepted formulation of Soviet psychological theory in the nineteen-thirties and forties.

The success of Rubinštejn's formulation was due not only to the fact that it embodied the four fundamental principles established in the course of the discussions, but also to the fact that he was able to relate it to a careful analysis of the works of Marx. Criticising both the introspectionist concept of consciousness and the behaviourist concept of human activity, Rubinštejn called for a transformation of these two concepts on the basis of the principle of the unity of consciousness and behaviour.

As Rubinštejn's ideas will be discussed in detail in the second half of this book, we shall confine ourselves here to a short outline of the main

points contained in the article. Rubinštejn defends the thesis that the statements of Marx relative to psychology, if rightly understood, provide the solution to the crisis in world psychology. The crisis in psychology, according to Rubinštejn, is a crisis of the philosophic basis of the science. Instead of being a unified science, psychology has disintegrated into a number of different conflicting schools of which the most important are introspectionism and behaviourism. For introspectionism, the object of psychology is the immediate data of consciousness; for behaviourism it is the activity of the organism considered as a mere reaction to external stimuli. The task facing psychology is the re-establishment of a unified object. This unity cannot be achieved by a mere synthesis of views of the conflicting schools; such a synthesis would merely be the sum of a multiplicity of false notions. The reunification of psychology can only be achieved by transformation of the concepts of human consciousness and behaviour on the basis of the Marxian concept of human activity. In Marx, human activity is conceived as a dialectic of subject and object. Through activity the subject reveals itself, objectivizing the inner world of its consciousness. Man's consciousness is at once the expression and guide of his activity. At the same time man, by his activity, forms and develops his subjective world. Furthermore, the activity by which man develops his subjective world is not merely individual but is above all social. Man's consciousness, which is the guide of his activity, evolved originally in the process of social activity and the external world with which man enters into synthesis by his activity, is not only the world of nature but at the same time society. In consequence human activity always remains a socially conditioned phenomenon.

Rubinštejn's principle of the unity of consciousness and behaviour united in one formula the four tenets of dialectical psychology as established by the discussions: the special nature of the psychic, its active role in human activity, the historicity of consciousness and the plasticity of man's subjective abilities. What gave authority to Rubinštejn's formulation was the authenticity of its 'Marxian inspiration'. Where many of the proposals for a Marxist psychology had merely used quotations from the 'Classics' to support theories independently evolved without any direct reference to Marxism-Leninism, Rubinštejn's work was founded on a careful interpretation of those elements in the writings of Marx which were relevant to psychology.

Rubinštejn further developed these ideas in his first major work, *Fundamentals of Psychology*[53], published in 1935. The book was later criticized for its "abstract functionalism" and Rubinštejn was taken to task for his uncritical 'anti-Marxist' evaluation of bourgeois psychology. His chief critic, V. N. Kolbanovskij, singled it out as a prime example of "the extent to which bourgeois ideas are influencing the elaboration of Soviet psychology".[54] Nonetheless, the *Fundamentals of Psychology* provided the basis for his monumental work *Fundamentals of General Psychology*[55], which, in the words of a recent Soviet author, "generalized the most recent works of Soviet psychologists and expressed the most important principles of Soviet psychology".[56] This work, of which a second edition appeared in 1946, contains the most complete presentation of Soviet psychological theory as it appeared in the years following the decree on pedology. Both editions of the book were later criticized and in 1947 it was discussed at a conference of the Academy of Social Sciences and the Academy of Sciences of the U.S.S.R. As with the *Fundamentals of Psychology*, the main criticisms leveled at this later work were that it drew too heavily from bourgeois authors and that Rubinštejn himself had not manifested sufficient party-vigilance in his treatment of bourgeois ideas.[57] Despite the criticisms leveled against it and even taking into account the new developments in Soviet psychology since 1950, the *Fundamentals of General Psychology* still remains one of the 'classics' of contemporary Soviet psychology.

In contrast to the lively discussions which occurred in the field of Soviet psychology between 1917 and 1936 the period which separates the decree on pedology from the Pavlov Conference of 1950 was one of relative calm. The decree on Pedology is regarded by Soviet psychologists as the turning-point in Soviet psychology and as marking the final break with bourgeois influences. In the period 1936–50 no major discussion on psychology occurred. A number of smaller debates did take place after 1936 in which individual schools were criticized for not adhering to the new line in psychology. In 1936 the review *Under the Banner of Marxism* published a report on a conference of psychologists called by the editors of that review to discuss the state of psychology in the Soviet Union.[58] The chief participants in the discussion were Kolbanovskij, Leontiev, Lurija, Teplov, Gal'perin, Él'konin, Blonskij, Aleksandrovskij, and Mitin. The occasion was used for a renewed attack on the so-called "anti-

Marxist schools in the area of psychology". The general complaint was that psychology was not playing the part demanded of it by task of Socialist Reconstruction, and the works of Blonskij and Vygotskij came under renewed attack, as did the work of the Institute of Psychology. From the report as published in *Under the Banner of Marxism* one gets the impression that the psychologists taking part in the discussion were none too happy with the task imposed on them of criticizing the so-called anti-Marxist schools. Kolbanovskij, one of the participants, was himself criticized for "too narrowly interpreting his role as a critic" and Lurija is reported as going on record to the effect that the level of psychology in the Soviet Union was not as low as some of the participants were attempting to make out.

Similar attacks[59] on 'anti-Marxist' tendencies in psychology occurred in the years between the decree on pedology and the outbreak of the war, but after 1936 it was considered that all major theoretical questions had been settled for the time being.

Writing in 1940[60], Rubinštejn formulated what he considered to be the most important principles governing Soviet psychology as follows:

(1) the *principle of psycho-physical unity* – the unity of the psychic with its organic substrate, the brain, of which it is a function, and with the external world, of which it is a reflection;

(2) the *principle of psychic development* – the psychic is a derived but specific component in the development of the organism; it develops along with the changes in the structure of the organism and of its mode of life;

(3) the *principle of historicity* – a determination of (2) – human consciousness changes with the development of man's social being;

(4) the *principle of the unity of theory and practice.*

Rubinštejn sees these four principles as the expression of the one basic principle of Soviet psychology, i.e. the principle of the unity of consciousness and behaviour.

D. THE PAVLOVIAN PERIOD: SINCE 1950

Ten years after the publication of Rubinštejn's *Fundamentals of General Psychology* Soviet psychology entered a second period of discussion. The new wave of discussion centered around the significance of the teaching of I. P. Pavlov for psychology and in particular of the relation between

psychic phenomena and higher nervous activity. This period of renewed discussion dates from the Scientific Session on the Physiological Teachings of Academician I. P. Pavlov – the so-called Pavlov Conference – held jointly by the Academy of Sciences of the U.S.S.R. and the Academy of Medical Sciences of the U.S.S.R. from June 28th to July 4th, 1950.[61] As a result of the Conference it was established that the theoretical framework of psychology as developed in the previous period was insufficient, and psychologists were required to reconstruct their science on the basis of Pavlovism.

The declared purpose of the six-day Conference was to undertake a "critical and self-critical examination of how matters stand with regard to the development of Pavlov's legacy in the Soviet Union".[62] The declaration addressed to Stalin by the Conference affirmed that Pavlov's teaching "provides a scientific basis for the creative development of physiology, medicine and psychology, of rational dietetics, physical culture and spa-therapy"[63], while the resolutions adopted by the Conference added veterinary science to the long list of sciences amenable to the application of Pavlovian methodology.[64] The significance of Pavlov's ideas for each of these branches of science was dealt with in the course of some 81 speeches delivered at the Conference. During the six days of discussion, speaker after speaker rose to proclaim the significance of Pavlov's teaching in one or other branch of biological science and to criticize his own shortcomings and those of his colleagues in developing Pavlov's legacy to Soviet science.

The general lines to be followed by the Conference were laid down in the two opening reports delivered by K. M. Bykov and A. G. Ivanov-Smolenskij. Bykov in his report claimed that all physiology could be divided into a pre-Pavlovian and a Pavlovian stage and went on to conclude that Pavlov's classical discoveries were of universal significance for all branches of physiology and medicine.[65] The same sentiments were echoed by Ivanov-Smolenskij, who stated that "Pavlov's teachings are pregnant, fruitful possibilities for raising Soviet science and especially Soviet medicine to unprecedented heights".[66]

The Conference took to itself Stalin's maxim that "no science can develop and flourish without freedom of criticism" but throughout the Conference criticism was more often practised than self-criticism.[67] L. A. Orbeli, director of the Research Institute at Pavlovo, and his collaborators

were severely taken to task for having "occupied themselves not so much with developing the heritage of Pavlov's ideas, as with elaborating problems posed by Orbeli himself".[68] Orbeli was further charged with allowing himself to be influenced by "West-European and American bourgeois theories" and of falling into psycho-physical parallelism.[69] Similar charges were levelled against other leading physiologists. Pavlov's teaching, it was claimed, was sadly lacking from current textbooks on physiology and the Conference went on to adopt a resolution that contests should be held within the next two years for the best textbooks on physiology "based on Pavlov's ideas and the achievements of Soviet physiology".[70]

Considering the importance subsequently attributed to the Conference, as marking a turning-point in Soviet psychology, psychologists played a surprisingly small part in the discussions. Only three psychologists addressed the Conference: B. M. Teplov, S. L. Rubinštejn, and V. M. Kolbanovskij. A paper by A. R. Lurija, not read at the Conference, was included in the published report. Those psychologists who spoke at the Conference exercised considerable caution, confining themselves for the most part to general statements on the significance of Pavlov's teaching for psychology. This reticence drew from Ivanov-Smolenskij the caustic remark that "in the speech of Professor Teplov, besides self-criticism, there was, unfortunately, nothing else".[71]

The psychologists evidently felt their position threatened by the statements of many of the physiologists whose views on the nature of psychology implied a denial of the right of that science to exist. Kolbanovskij's address to the Conference is a long apology on behalf of psychology, and all the psychologists were united in calling for greater cooperation between physiologists and psychologists in developing their common Pavlovian heritage.

Rubinštejn's address[72] to the Conference is a notable exception to the cautious line taken by his colleagues. In his address he outlined the implication of the application of Pavlov's teaching to psychology. In the first place it meant that the problem 'brain and psyche' received a new treatment and the dialectical materialist principle that the psyche is a function of the brain, a 'new content'. Rubinštejn thus clearly marked off that area of psychological theory to which Pavlov's teaching was immediately applicable, namely, the relation of the psychic to normal function-

ing of the brain. In detail, this meant that (1) the psychic functions could no longer be related to the anatomical structure of the brain as their material substrate but rather to its physiological activity; (2) the elimination of the 'two-factor theory', according to which psychic events are determined by two separate factors, brain structure and environment. Since the physiological activity of the brain – which forms the material substrate of the psychic – is reflex activity, the determining factor for such activity, and in consequence for psychic activity as well, is the external environment or the conditions of life of the organism.

Rubinštejn went on to list a number of other problems to which Pavlov's teaching could be fruitfully applied; the problem of thought and speech; the problem of activity and its connection with word-meaning; the problems of ability, temperament and character.[73]

Some of the most important statements on psychology were expressed by the physiologists. Ivanov-Smolenskij's paper deserves special mention as it set the tone for much of the Conference. Towards the end of his opening address, Ivanov-Smolenskij dealt at some length with the question of the relation between the subjective and the objective.[74] He obviously considered this as a purely physiological problem referring to it as "one of the most important problems of physiology and pathophysiology of higher nervous activity".[75] For Pavlov, he stated, mental activity is higher nervous activity and must, in consequence, be studied by purely objective methods. For this reason Pavlov called for the amalgamation (*slitie*) of psychology and physiology conceiving the higher functioning of the brain, which he called mental activity, as the unity of subjective and objective. It is therefore erroneous "to endeavour to employ at one and the same time, Pavlov's strictly objective method and the subjective psychological method, an endeavour which in fact springs from the conception of psycho-physical parallelism".[76]

It is clear that Ivanov-Smolenskij was advocating the subordination of psychology to physiology or even the total abolition of the former. If mental activity is higher nervous activity then it is difficult to see how one can speak of psychology as a science distinct from the physiology of higher nervous activity.[77]

As Ivanov-Smolenskij himself pointed out, the views he expressed were those of Pavlov and, indeed, the most obvious interpretation of the 'Pavlovisation' of psychology decreed by the Congress was that it implied

the repudiation of 'dialectical psychology' and a return to the mechanism and behaviourism of the nineteen-twenties. Statements on the nature of the psychic, which, in the late thirties and forties would have been branded as 'vulgar materialism' were freely expressed in the years immediately following the Conference, but the immediate effect of the Conference was to usher in a new period of discussion on the nature of psychology. This discussion, which has been carried out in the leading Soviet scientific journals, in numerous books and at scientific conferences is still continuing.

Reviewing the course of the discussion in 1964, N. V. Medvedev[78], in an article reminiscent of Kornilov's article of 1927[79], distinguished three aspects of the problem of the nature of the psychic: (1) the 'gnoseological' aspect – the psychic as opposed to external reality; (2) the social aspect – the relation of the psychic to society in its content and origin; (3) the natural-scientific aspect – the relation of the psychic to the brain. According to Medvedev, the first two aspects of the problem have been resolved to the satisfaction of all Marxist-Leninist psychologists but the most divergent views are being expressed on the third – the natural-scientific aspect.

It is impossible within the limits of the present work to give a complete account of the different views on the nature of psychic phenomena expressed in the course of debate precipitated by the Pavlov Conference. We shall therefore content ourselves with presenting the most important opinions put forward.

An extreme mechanist interpretation of psychic phenomena was proposed by V. M. Arxipov. In an article published in the *Soviet Pedagogy*[80] Arxipov attacked the view that the psychic is immaterial. The concept of 'immaterial', he said, is logically the contradiction of 'material'. Hence to say that the psychic is immaterial means that it possesses properties directly opposed to those of matter, i.e., it is not sensible, not in space, etc. But according to the 'Classics', the psychic is a property of matter, a form of material motion, hence it too must be sensible, spatial, etc. Since the psychic possesses the properties of matter it must be material. The only opposition between matter and consciousness is that between matter and one of its forms, or between the whole and the part. To those who object that, according to Lenin, "sensation is the subjective image of the objective world", and that, while the neural process which pro-

duces the image is material, the image itself is not, Arxipov replied that the nervous process is the subjective form. Subjective image and neural process are two aspects of the same phenomenon.

It follows that the laws of higher nervous activity are the laws of psychology. To the further objection that such a view is tantamount to reducing psychology to physiology Arxipov replies that in fact, psychology is a branch of physiology. The only difference is that between the general and the particular. The physiology of higher nervous activity studies behaviour (*povedenie*) without specially considering subjective factors. Psychology studies these subjective phenomena as a particular form of higher nervous activity using physiological methods.

Arxipov's theory amounts to 'vulgar materialism', as his opponents were quick to point out.[81] Arxipov was not the only one to put forward the view that the psychic is material but this view found few supporters among Soviet psychologists. As Arxipov himself relates, the All-Union Conference on Problems of Psychology agreed that the reconstruction of psychology on the basis of Pavlovism did not mean the reduction of psychology to the physiology of higher nervous activity.[82] In the same year (1954) the *Questions of Philosophy* published an editorial attacking those who attempted to reduce psychology to physiology[83], and in the same issue V. N. Kolbanovskij wrote a long reply to a question submitted by a group of students: "Is it true to say that consciousness is material?". Kolbanovskij replied categorically: "No, it is not true", and went on to say that such a view contradicts the writings of the 'Classics' and confuses consciousness with its material substrate.[84]

In the early stages of the debate, the opposite extreme was represented by an article published by N. P. Antonov in 1953. According to Antonov, psychic activity cannot be equated with higher nervous activity: "There are two series of phenomena, psychological and physiological, material and ideal, which are understood in the light of materialist monism as two sides of a single indivisible nature."[85] Higher nervous activity forms the material, physiological basis apart from which psychic activity cannot exist. But, though the two series of phenomena are inseparably connected, they cannot be identified. Consequently, Pavlov's teaching applies only to the material basis of the psychic, but cannot explain the specific laws of the psyche because the latter is essentially an ideal reflection of the external world.

Antonov's views received almost as little support as Arxipov's. Even though V. V. Orlov later proposed a more radical distinction between psychological and physiological events[86], Antonov's theory, when it was first published, was sharply criticized by a large number of his colleagues. Antonov, it was felt, had gone too far in emphasizing the special, irreducible nature of the psyche and was sailing too close to psycho-physical parallelism. Moreover, as a number of his critics were quick to point out, Antonov's statement that Pavlov's doctrine is concerned with the "material basis of psychic activity ... but does not reveal the specific regularities of the psyche" could not easily be reconciled with the pavlovisation of psychology decreed in 1950. Most of the participants in the discussion tried to steer a middle course between the two extremes represented by Antonov and Arxipov; while holding that psychic activity and higher nervous activity do not form two distinct processes, they tried to find a formula which would avoid totally reducing the psychic to the physiological.

A. I. Rozov[87] put forward the view that the psychic act is made up of a multiplicity of physiological processes. Hence, he said, one should speak, not of the physiological *basis* of the psychic (a term which smacks of parallelism) but rather of its physiological *components*. The psychic act, however, is more than the sum of its physiological components and cannot be described in purely physiological terms. As Rozov pointed out, a simple phenomenon like pain cannot be described in purely physiological terms; *a fortiori*, such terms are inadequate to describe more complicated phenomena like interest, understanding, thought etc. The specific, distinguishing quality of the psychic act is its subjective character. What then constituted the subjectivity of psychic phenomena? In Rozov's view, this would seem to depend on the organisation of its physiological components. To illustrate the relationship between the psychic act and its physiological components, Rozov used the example of a house: the bricks are the components from which the house is built but just as the architecture cannot be defined in terms of the individual bricks, so the specific nature of the psychic act cannot be fully explained in terms of the physiological processes of which it is composed.

Most of the participants in the discussion subscribed to the theory that psychic and physiological are two sides (*storony*) of a single process. This opinion was shared, with some variations by K. M. Dedov, V. M.

Teplov, A. V. Petrovskij, P. V. Simonov, N. A. Xromov, N. V. Medvedev, E. V. Šoroxova[88], etc. This theory was summarised by A. V. Petrovskij as follows:

> Higher nervous activity (the psyche) can be considered from the side [*so storony*] of its mechanism, i.e. of the processes of central nervous activity or cortical activity; this is what is studied by physiology. But higher nervous activity (the psyche) can also be considered from the side of the result of this cortical activity, as a cerebral function; as such it is studied by materialistic psychology.... The doctrine of I. P. Pavlov, which considers psychic activity as the result of physiological activity, not only lays bare the material basis of the psyche, but also brings to light the specific regularities of the psyche as a reflection of the objective world.[89]

There is, therefore, only one activity or process taking place in the brain. If one only considers the 'mechanisms' of this activity then it can be defined as a material, physiological process. But if, on the other hand, one takes into account the product of this activity, i.e. the reflection of the material world, then this same activity is an ideal process. It should be noted that it is not a question of a material process producing an immaterial, ideal image distinct from the process itself. The process *is* the image. From the point of view of the knowing subject, the processes taking place in his brain appear to him as reflections of the external world. But to an outside observer these same processes appear as measurable, material physiological processes. Ideal image and material process are, therefore, two sides or aspects of the one phenomenon.

For all its apparent popularity, the 'two-sides' theory also had its critics among Soviet psychologists. The publication in 1957, of F. F. Kal'cin's *Basic Problems of Theory of Knowledge*[90] was the signal for a vigorous attack on the theory that psychic events have a material as well as an ideal quality. Kal'cin proposed a particularly radical distinction between what he called the *epistemological* and *ontological* aspects of the psyche. The former designates the relationship of the psyche to the external world; the latter, its relationship to the brain. In relation to the outer world the psyche or consciousness appears as an ideal reflection; in relation to the brain it appears as a form of the motion of matter. Under the second aspect, Kal'cin described it as a "corporeal (*tel'esnaja*) material activity taking place in the brain".[91]

Kal'cin's ideas were attacked in two lengthy reviews in the *Philosophical*

Sciences and *Kommunist*.[92] Kal'cin's theory was denounced as 'vulgar materialism' and as effectively reducing the psyche to matter. F. N. Georgiev, in an article in *Philosophical Sciences*, rejected the distinction between the epistemological and ontological aspects of the psyche, on the grounds that the psyche is always the same whether it is considered in relation to the brain or to the external world. The essence of the psyche, he said, does not depend on the point of view of the observer.[93] However, the major objection of such opponents of the 'two-sides' theory as F. N. Georgiev, V. V. Orlov and N. P. Antonov is that the psyche is in no sense material; it is always ideal whether considered in relation to the brain or to the outside world. "Because it is a reflection", writes N. P. Antonov, "consciousness is a subjective, ideal form of objective material reality".[94]

Closely connected with the dispute on the two sides or aspects of psychic phenomena is the question whether thought and psychic activity generally, are more properly defined as a *property* of matter or as a *form of the motion of matter*. In the last few years, this particular problem has provoked as much debate as the problem just discussed. It too seems to have also been occasioned by the publication of Kal'cin's *Basic Problems of Theory of Knowledge*. The use of the expression *form of the motion of matter* has been inspired by a text from the *Dialectics of Nature* where Engels describes the 'basic forms of motion'. In the opening sentence Engels writes:

> Motion in the most general sense, conceived as the mode of existence, the inherent attribute of matter, comprehends all changes and processes occurring in the universe, from mere changes of place right up to thought.[95]

Using this text as his reference, Kal'cin and later N. V. Medvedev, argued that thought or consciousness are more correctly defined, on the ontological level, as *forms of the motion of matter* than as *aspects* or *properties* of matter. Despite the authority of Engels, the use of the expression *form of the motion of matter* was challenged by Antonov, Georgiev, and many others. Quite apart from their general reluctance to call the psyche material under any circumstance, the critics took particular exception to the use of the term in question. Commenting on an article by Medvedev, Antonov objected that "a form of the motion of matter cannot be an ideal reflection of matter" and went on to argue that "forms of the motion of matter, since they are material, exist inde-

pendently of man and of his brain".[96] In other words, if thinking is a form of the motion of matter then our thoughts (the things in motion) must be material. This, Antonov stated, is vulgar materialism. This, however, was not quite what Medvedev meant. As the latter pointed out, matter is not identical with motion, no more than it is with any other of its properties. These properties, he argued, can be called *material* in the sense that they are properties of a material thing; but this does not mean that the properties themselves are material in the sense of being *corporeal.* Medvedev further argued that it is vulgar materialism to call thought and consciousness *properties* of the physiological processes taking place in the nervous system. If it is a property of this motion, then it is qualitatively the same as it. In other words, the psychic is effectively reduced to the physiological.

Medvedev's critics were, moreover clearly embarrassed by his appeal to the authority of Engels, and tried to explain away the text. P. I. Razmyslov argued that Engels had changed his opinion when writing the *Anti-Dühring*, where he no longer speaks of thought in these terms.[97] N. P. Antonov accepted the text but dismissed its probative value on the grounds that Engels was only speaking in very general terms and pointing out that, when the 'Classics' are treating of thought and consciousness *ex professo*, they always use the terms *property*, *function* or *product.*

And so the debate continues. The above account does not give an adequate picture of the intensity or of the range of the discussions on the nature of psychic events precipitated by the Pavlov Conference. It has been carried on on the pages of the leading Soviet scientific and philosophical journals, in numerous books and at scientific conferences. Since 1960 two major congresses have been held to discuss these problems, but Soviet philosophers and psychologists seem to be as divided as ever. Even now, some 18 years after the Pavlov Conference the debate is still continuing and a definitive end is nowhere in sight.

E. CONCLUDING REMARKS

Reviewing the course of Soviet psychological theory since 1917, one can observe elements of continuity and elements of evolution. In the first place, the development of a 'Marxist' psychology, that is to say a psychology guided and inspired by the principles of Marxism-Leninism, has

remained the ideal of Soviet psychologists. This concern for 'Marxist' authenticity goes far towards explaining the strikingly 'scholastic' character of the protracted debates on the nature of psychic phenomena: the concern for authority, exegetical analysis of key texts, the quibbling over the precise meaning of words. In all these discussions and debates there has been a singular lack of concern for observation and experimental data; the ultimate argument has usually been, 'this is what the "Classics" say'.

It is interesting to note how the requirements for a 'Marxist' psychology have changed over the years. During the early nineteen-twenties the chief requirement was that it be materialist, while in the nineteen-thirties dialectics was added. Since 1950 a new and extrinsic element has been added, namely, Pavlovian physiology. The insistence that Soviet psychology must be not only 'Marxist' but also 'Pavlovian' strikes a discordant note since there is no obvious connection between the two. In fact, as we have tried to show in Chapter I, Pavlovian theory and Marxist-Leninist philosophy are in open opposition on many points; the most important being Pavlov's pronounced mechanism. Yet Soviet writers see (or claim to see) in the addition of Pavlovian physiology an aid to the development of a genuinely 'Marxist' psychology. Pavlov's ideas, it is claimed, provide the scientific foundation and so complement Marxism-Leninism. However, the protracted debate on the nature of psychic events leaves little doubt that, in attempting to form a synthesis of Pavlov's theories and Marxist-Leninist philosophy, Soviet psychologists are facing an impossible task. After reading the various solutions proposed since 1950, one is left with the impression that Soviet psychologists are turning around in circles. All the fundamental solutions to the problem of the relationship between consciousness and higher nervous activity were formulated during the first half of the nineteen-fifties, and since then Soviet writers have done little more than repeat them in slightly modified form. There are, in fact, only three possible solutions to the problem, and each of them raises almost as many problems as it solves. One can deny, like V. M. Arxipov, that psychic activity is distinct from neurophysical processes or higher nervous activity and so make consciousness material; but this is 'vulgar materialism'. Or else one can say that there is only one process in the brain (higher nervous activity) but that it has two 'sides' – one psychic and ideal, the other physiological and material. But in this case it is difficult to make of this anything other than a merely verbal solution;

and secondly, one is faced with the problem of explaining how the same process can have two opposite characteristics or qualities. The third solution, that proposed by N. P. Antonov, is in many respects the most satisfactory. It asserts that the psychic and the physiological form two distinct processes. But it is difficult to see how this can be reconciled with the directives of the Pavlov Conference; for if Antonov is correct, then it is hard to see how Pavlov's ideas are directly relevant for psychology.

Soviet psychological theory prior to 1950 struck a nice balance between Marxism-Leninism's materialist-monist ontology and its transcendentalist epistemology. The Pavlov Conference upset that balance and ever since Soviet psychologists have been side-tracked into debating what must seem to the outside observer to be pseudo-problems.

REFERENCES

[1] This division is fundamentally the same as that given by John Fizer, 'The Arts and Sciences', in J. M. Bocheński and G. Niemeyer (eds.), *Handbook on Communism*, New York 1962, p. 480. Fizer's division is based on that proposed by I. D. London, 'A Historical Survey of Psychology in the Soviet Union', *Psychological Bulletin* **46**, no. 3 (July 1949), 241–277 (henceforward: London, 'A Historical Survey').

[2] The terms 'idealism' and 'mechanism' are used in the sense given them by Soviet authors. In the present context 'idealism' is used to denote any theory which implies the independence of the spiritual or psychic in relation to the material. 'Mechanism' is used here to denote any theory which seeks to explain all natural phenomena by the laws of mechanics and to reduce all processes to mechanical motion. Cf. M. M. Rozental' i P. Judin (red.), *Kratkij filosofskij slovar'*, M. 1954, pp. 182–185, 347–348.

[3] K. N. Kornilov, 'Sovremennoe sostojanie psixologii v SSSR' [The Present State of Psychology in the USSR], *PZM*, 1927,10/11, p. 197 (henceforward: Kornilov, 'Sovremennoe sostojanie').

[4] Kornilov, 'Sovremennaja psixologija i marksizm' [Contemporary Psychology and Marxism], *PZM*, 1924,1, 41–42 (henceforward: Kornilov, 'Sovremennaja psixologija'). Cf. also A. V. Petrovskij, *Istorija sovetskoj psixologii* [History of Soviet Psychology], M. 1967.

[5] *Ibid.*

[6] London, 'A Historical Survey', p. 244.

[7] Cf. Ch. I.

[8] Kornilov, 'Sovremennaja psixologija', pp. 44–45.

[9] Cf. Raymond Bauer, *The New Man in Soviet Psychology*, Cambridge, Mass., 1952, p. 68 (henceforward: Bauer, *The New Man*).

[10] "Thus in the consecutive phases of the investigation of human personality, the law of dialectical development is illustrated, for the metaphysical method of studying personality is the antithesis of the theological attitude; empirical psychology, of the metaphysical method; and lastly, the reflexological method, in turn, is the antithesis of empirical psychology, and eventually, having created the science of human person-

ality, will give us the final synthesis through the objective method." V. M. Bexterev, *General Principles of Human Reflexology*, London 1933, p. 105.

[11] "In fact it is still open to discussion whether psychology is a natural science or whether it can be regarded as a science at all." I. P. Pavlov, *Conditioned Reflexes. An Investigation of the Physiological Activity of the Cerebral Cortex* (trans. and ed. by G. V. Anrep), New York 1960, p. 3.

[12] G. P. Frolov, 'The Study of Conditioned Reflexes', quoted in *Psychological Abstracts*, **4** (1930), no. 1345.

[13] The name 'Reflexology' properly applies to Bexterev's system alone. It is used here, however, in a wider sense to include all systems, including Pavlov's, which try to explain psychic phenomena in terms of the reflex.

[14] Cf. references 3 and 6; also Kornilov, 'Dialektičeskij metod v psixologii' [The Dialectical Method in Psychology], *PZM*, 1924,1, 107–113.

[15] Kornilov, 'Sovremennoe sostojanie', p. 200.

[16] Kornilov, 'Psychology in the Light of Dialectical Materialism', in C. Murchison (ed.), *Psychologies of 1930*, Worcester, Mass., 1930, p. 252.

[17] "Consciousness is not an unnecessary supplement to but an adaptive function in the behaviour of men." *Ibid.*, p. 268.

[18] *Ibid.*, p. 264.

[19] *Ibid.*, p. 268.

[20] *Ibid.*

[21] *Ibid.*, p. 270.

[22] *Ibid.*, p. 264. Kornilov here quotes the following passage from Buxarin's *Attaka*: "We regard psychic phenomena as one but not identical with the physiological processes conditioning them. It is not without reason, therefore, that the school of dialectics regards psychic phenomena not as something supernatural, but simply as the *other side* of physical, physiological processes showing peculiar qualitative features."

[23] Cf. F. Georgiev, 'Protiv bixeviorizma i reaktologija' [Against Behaviourism and Reactology], *PZM*, 1937,1, 163–169 (henceforward: Georgiev, 'Protiv bixeviorizma'). G. F. 'O sostojanii i zadačax psixologičesoj nauki v SSSR' [On the Present State of Psychological Science in the USSR], *PZM*, 1936,9, 87–99 (henceforward: G. F., 'O sostojanii').

[24] Cf. S. L. Rubinštejn, *Osnovy obščej psixologii*, M. 1946, p. 83 (henceforward: Rubinštejn, *Osnovy*).

[25] Cf. V. M. Bexterev i d-r Dubrovskij, 'Dialektičekij materializm i refleksologija' [Dialectical Materialism and Reflexology], *PZM* 1926,7/8, 69–94.

[26] The best account in English is David Joravsky, *Soviet Marxism and Natural Science, 1917–1932*, London 1961 (henceforward: Joravsky, *Soviet Marxism*). Cf. also Wetter, *Diamat*.

[27] Cf. Wetter, *Diamat*, p. 139.

[28] *Ibid.*, 130; Joravsky, *Soviet Marxism*, pp. 93ff.

[29] "PHILOSOPHY IS A PROP OF THE BOURGEOISIE. Not idealist, not metaphysical philosophy only, but precisely philosophy in general, philosophy as such. ... In a word, the proletariat retains and must retain science, only science, but no kind of philosophy. SCIENCE TO THE BRIDGE – PHILOSOPHY OVERBOARD!" O. Minin, 'Filosofiju za bort' [Philosophy Overboard], *PZM*, 1922,5/6, 123, 137. Quoted in Joravsky, *Soviet Marxism*, p. 96.

[30] "The Marxist recognises no special field of 'philosophical activity' distinct from that of science; for the Marxist, materialist philosophy consists in the latest and most

general findings of science." I. I. Stepanov, *Istoričeskij materializm i sovremennoe estestvoznanie*, M. 1927, p. 57. Quoted in Wetter, *Diamat*, p. 138.

[31] "... nauka prixodila k razrešeniju mnogix problem, pered kotorym ran'še ona ostanavlivalas' v polnom nedoumenii. Takoby byli, napr. prosessy protekajuščie v živoj materii. Naučnoe ponimanie ix sdelala vožmožnym s togo vremeni, kogda nauka stala svedit' ix k bolee prostym javlenijam, soveršajuščimsja v mertvom mineral'nom veščestve i sostavljajuščim predmet izučenija fiziki i ximiki." (Science has arrived at the solution of many problems before which it formerly stood perplexed. Such, for example, was [the problem of] the processes found in living matter. A scientific understanding of these processes became possible from the moment science began to reduce them to the simpler phenomena found in dead, mineral substances and which are studied by physics and chemistry.) I. I. Stepanov, 'Dialektičeskoe ponimanie prirodi – mexanističeskoe ponimanie' [The Dialectical Concept of Nature is a Mechanical Concept], *PZM*, 1925,3, 218.

[32] A. M. Deborin, *Dialektika i estestvoznanie* [The Dialectic and Natural Science], M.-L. 1930, p. 142. Quoted in Wetter, *Diamat*, p. 164.

[33] *Ibid.*

[34] The Mechanists were accused of providing the philosophical justification for the 'Rightest Deviation' in politics, while the Deborinists were supposed to have supplied the philosophical foundation for the 'Menshivising Idealist' faction. Cf. Joravsky, *Soviet Marxism*, esp. Ch. 3.

[35] One is not justified in postulating anything more than a similarity between the debate on dialectics in psychology and the much wider controversy between the Mechanists and Deborinists in other branches of natural science. Joravsky (*Soviet Marxism*, p. 361, note 29) states that the Deborinists do not seem to have endorsed the psychological views of Kornilov and his supporters. There is no evidence to show that Kornilov was directly influenced by Deborin. In this connection it is interesting to note that one of the authors most frequently quoted by Kornilov is N. I. Buxarin. Cf. Kornilov, 'Psychology in the Light of Dialectical Materialism'.

[36] Redakcija *PZM* (peredovoja), 'Novij etap. K itogam II Vsesojuznoj konferencii marksistsko-Leninskix naučno-issledovatel'skix učreždenij' [A New Stage. A Summary of the 2nd All-Union Conference of Marxist-Leninist Research Institutes], *PZM*, 1929,5, 2.

[37] 'Rezoljucii II Vseosojuznoj konferencii marksistsko-leninistskix naučno-issledovatel'skix učreždenij' [Resolutions of the Second All-Union Conference of Marxist-Leninist Research Institutes], *PZM*, 1929,5, 8.

[38] Redakcija *PZM*, *Ibid.*, p. 1.

[39] Cf. Wetter, *Diamat*, p. 135.

[40] Cf. Bauer, *The New Man*, p. 95.

[41] Cf. 'Vygotskij', F. V., Konstantinov (red.), *Filosofskaja Enciklopedija*. t. 1, M. 1960.

[42] Rubinštejn, *Osnovy*, p. 83.

[43] London, 'A Historical Survey', p. 251; Bauer, *The New Man*, p. 74.

[44] An English translation of the Decree on Pedology is printed in J. Wortis, *Soviet Psychiatry*, Baltimore 1950, pp. 242–245.

[45] A. R. Lurija gives the following definition of Pedology: "The science of the growing organism, and its symptomatic complexes (including the somatic, psychological and social peculiarities of the child)." A. R. Lurija, 'Psychology in Russia', *Journal of Genetic Psychology* **35** (1928), 347–348.

[46] P. P. Blonskij, *Pedologija*, M. 1925.

[47] Cf. 'Pedologija', *MSE*, t. 8 (1939), p. 51.
[48] Wortis, *Soviet Psychiatry*, p. 243.
[49] *Ibid.*, p. 245.
[50] *Ibid.*
[51] S. L. Rubinštejn, 'Problemy psixologii v trudax K. Marksa' [Problems of Psychology in the Works of K. Marx], *Sovetskaja psixotexnika*. t. 1, no. 1, pp. 3–20 (henceforward: Rubinštejn, 'K. Marks').
[52] Cf. A. N. Leontiev, 'Ob istoričeskom podxode v izučenii psixiki čeloveka' [The Historical Approach to the Study of the Human Psyche], *Psixologičeskaja nauka v SSSR* [Psychological Science in the USSR], t. 1, M. 1959, p. 15.
[53] S. L. Rubinštejn, *Osnovy psixologii*, M. 1935.
[54] Reported by G. K., 'O sostojanii', p. 89.
[55] Rubinštejn, *Osnovy obščej psixologii*.
[56] M. V. Sokolov, 'Raboty sovetskix psixologov po istorii psixologii' [Works by Soviet Psychologists on the History of Psychology], *Psixologičeskaja nauka v SSSR*. t. 2, M. 1960, p. 633.
[57] Cf. V. N. Kolbanovskij, 'Za marksistskoe osveščenie voprosov psixologii' [For a Marxist Treatment of the Problems of Psychology], *Bol'ševik*, 1948,17, 50–56.
[58] G. F., 'O sostojanii'.
[59] Cf. Georgiev, 'Protiv bixeviorizma'.
[60] Rubinštejn, *Osnovy*, pp. 84–85.
[61] *Naučnaja sessija posvjaščennaja problemam fiziologičeskogo učenija akademika I. P. Pavlova. Stenografičeskij otčet*. M. The inaugural address, reports and resolutions have been published in English under the title *Scientific Session on the Physiological Teaching of Academician I. P. Pavlov*, M. 1951. References to the English trans. will be given in brackets (henceforward: *Naučnaja sessija*).
[62] *Ibid.*, p. 5 (9).
[63] *Ibid.*, p. 4 (6).
[64] *Ibid.*, p. 525 (173).
[65] *Ibid.*, p. 14 (23).
[66] *Ibid.*, p. 81 (141).
[67] *Ibid.*, pp. 8, 43 (14, 76).
[68] *Ibid.*, p. 24 (41).
[69] *Ibid.*, p. 22 (39).
[70] *Ibid.*, p. 526 (173).
[71] *Ibid.*, p. 511 (151).
[72] *Ibid.*, pp. 310–315.
[73] For Rubinštejn's role in the subsequent debate on Pavlovism and psychology see Ch. III.
[74] *Naučnaja sessija*, pp. 69–77 (119–133).
[75] *Ibid.*, p. 69 (119).
[76] *Ibid.*, p. 76 (132).
[77] Blakeley, *Soviet Theory of Knowledge*, Dordrecht, Holland, 1963, p. 25.
[78] N. V. Medvedev, 'Ešče raz o prirode psixičeskogo' [Further Considerations on the Nature of the Psychic], *FN*, 1964,2, 111–115.
[79] Cf. p. 41.
[80] V. M. Arxipov, 'O material'nosti psixiki i predmete psixologii' [On the Materiality of the Psyche and the Object of Psychology], *Sov. Ped.*, 1954,7, 67–73 (henceforward: Arxipov, 'O material'nosti').

[81] Cf. V. N. Kolbanovskij, 'Pravil'no li utverždat' čto soznanie material'no?' [Is it true to say that Consciousness is Material ?], *VF*, 1954,4, 236 (henceforward: Kolbanovski, 'Pravil'no li').

[82] Arxipov, 'O material'nosti', pp. 78–79.

[83] 'O filosofskix voprosax psixologii' [Philosophical Problems of Psychology], *VF*, 1954,4, 182–193.

[84] Kolbanovski, 'Pravil'no li', pp. 236–238.

[85] N. P. Antonov, 'Dialektičeskij materializm – teoretičeskaja osnova psixologii' [Dialectical Materialism is the Theoretical Basis of Psychology], *VF*, 1953,3, 195–202.

[86] *Filosofskie voprosy fiziologii vyssšej nervnoj dejatel'nosti i psixologii*, M. 1963, pp. 646–650.

[87] A. I. Rozov, 'Soobraženija rjadogo psixologa' [Reflections of a Simple Psychologist], *VF*, 1953,3, 177–179.

[88] K. M. Dedov, 'K voprosu ob otnošenijax meždu psixologiej i fiziologiej vyssšej nervnoj dejatel'nosti' [The Problem of the Relationship between Psychology and the Physiology of Higher Nervous Activity], *VF*, 1954,1, 216–218. – V. M. Teplov, 'Ob"ektivnij metod v psixologii' [The Objective Method in Psychology], *Sov. Ped.*, 1952,7, 66–86. – A. V. Petrovskij, 'Ob ob"ektivnom xaraktere psixologičeskix zakonomernostej' [The Objective Character of Psychological Laws], *VF*, 1953,3, 173–177. – P. V. Simonov, 'O termine 'vyssšaja nervnaja dejatel'nost' čeloveka'' [The Expression 'Higher Nervous Activity in Man'], *VF*, 1953,4, 213–215. – N. A. Xromov, 'O naučnom ponimanii psixičeskoj ili vyssšej nervnoj dejatel'nosti' [The Scientific Notion of Psychic or Higher Nervous Activity], *VF*, 1953,4, 216–218. – N. V. Medvedev, 'K voprosu ob otražatel'noj rabote mozga' [On the Question of the Reflex Work of the Brain], *VF*, 1960,6, 105–119. – 'Ešče raz o prirode psixičeskogo' [Further Considerations on the Nature of the Psychic], *FN*, 1964,2, 111–115. – E. V. Šoroxova, V. M. Kaganov, 'Filosofskie problemy psixologii' [Philosophical Problems of Psychology], in *Filosofskie voprosy fiziologii vyssšej nervnoj dejatel'nosti i psixologii*, M. 1963, pp. 63–105.

[89] Petrovskij, *op. cit.*, p. 176.

[90] F. F. Kal'cin, *Osnovnye voprosy teorii poznanija* [Basic Questions of Theory of Knowledge], Gorki 1957.

[91] *Ibid.*, p. 83.

[92] L. O. Reznikov, 'Kritika knigi F. F. Kal'cina *Osnovnye voprosy teorii poznanija*' [Critique of F. F. Kal'cin's book *Basic Problems of Theory of Knowledge*], *FN*, 1960,2, 173–180. – G. Kursanov, V. N. Kolbanovskij, 'Protiv putanicy v osveščenii voprosov teorii poznanija' [Against Confusion in the Treatment of Theory of Knowledge], *Kommunist*, 1959,17, 113–118.

[93] F. N. Georgiev, 'V. I. Lenin o vzaimootnošenii psixičeskogo i fiziologičeskogo' [V. I. Lenin on the Interrelation of the Psychic and the Physiological], *FN*, 1959,1, 17–24.

[94] N. P. Antonov, 'K voprosu o prirode psixičeskogo' [On the Question of the Nature of the Psychic], *FN*, 1965,4, 81.

[95] Cf. Ch. I, reference 109.

[96] Antonov, *op. cit.*, p. 79.

[97] P. I. Razmyslov, 'Vopros o prirode psixičeskogo v svete Klassikov marksizma' [The Question of the Nature of the Psychic in the Light of the Works of the Classics of Marxism], *FN*, 1962,4, 101–105.

CHAPTER III

THE LIFE AND WORK OF S. L. RUBINŠTEJN

A. LIFE

The part played by S. L. Rubinštejn in the evolution of Soviet psychology has already been discussed in the previous chapter, and the succeeding chapters will be entirely devoted to a systematic presentation of his ideas. In the present chapter we shall confine ourselves to a brief account of his life and writings.

Only two sources of biographical information on Rubinštejn are readily available: the first is a short autobiographical sketch appended to his doctoral thesis which gives a short account of his early life; the second source consists of the brief biographical note published in *Questions of Psychology* on the occasion of his 70th birthday together with the obituary notices which appeared the following year in the same journal and in *Questions of Philosophy*.[1]

1. Schooling and Philosophical Formation

Sergej Leonidovič Rubinštejn was born in Odessa on June 18th, 1889. His father, Leonid Rubinštejn, was a lawyer; his mother's name he merely gives as Paula. In his doctoral dissertation he declares that he "belongs to the Jewish religion"; an expression which would seem to suggest that he was a practising Jew. In 1898 he entered the Richelieu Academy in Odessa but left it five years later to continue his education in private. However, in 1908 he graduated from the Richelieu Academy and later the same year travelled to Germany to begin his studies in philosophy, mathematics and social science. During the summer semester of 1909 and the winter semester of 1909–10 he studied at the University of Freiburg in Breisgau and then moved to Marburg where he spent the next three years.

In the spring of 1913 he presented a thesis entitled *Eine Studie zum Problem der Methode*[2], written under the direction of Herman Cohen and Paul Natorp, for which he received the doctorate in philosophy.

In the years immediately preceding the First World War, Marburg was one of the two great centres of Neo-Kantian philosophy, which at that time so dominated the German philosophical scene that it was referred to as the *Schulphilosophie*. The most illustrious representatives of the Marburg school were Herman Cohen (1842–1918), its founder, who occupied the chair of philosophy at Marburg from 1879 until his death, and his pupil and successor Paul Natorp (1884–1924). The ideas of these men were to have a decisive influence on Rubinštejn's intellectual development. From them he inherited a preoccupation with methodology and an interest in the problem of the relation between thought and being. It was in these two directions that Rubinštejn later made his most significant contributions to Soviet philosophy.

Rubinštejn's interest in the problems of method and of the relation between being and thought are already in evidence in his doctoral dissertation, written under the direction of Cohen and Natorp. In this thesis Rubinštejn undertakes a critical examination of the rationalist solution of the problem of thought and being. He distinguishes two forms of rationalism: Absolute Rationalism, by which he means primarily the philosophy of Hegel, and Dualistic Rationalism which would seem to include any rationalist system which proclaims the antinomy of being and thought; Rubinštejn mentions in particular the philosophies of Plato and Kant.

According to Rubinštejn, the dualist method of solving the problem of thought and being is fundamentally unsatisfactory. By separating thought and being, dualism is at odds with all true philosophy defined as knowledge of true being (*das wahrhaft Seiende*) and therefore necessarily founded on the "immanence of thought and being".[3]

In the first half of the thesis, Rubinštejn undertakes a critical examination of Absolute Rationalism, which, he claims, attempts to overcome the antinomy of thought and being by identifying the one with the other.[4] It is Rubinštejn's contention that this system of identity (*Identitätssystem*) is incapable of the necessary reconciliation of thought and being. The reconciliation which Absolute Rationalism proposes is only apparent (*scheinbar*) and in fact involves a duality of thought and being no less acute than that in explicit dualism. The identity of thought and being which Absolute Rationalism proposes consists in the sublation (*Aufhebung*) of being in the form of the concept. The concept is thus placed

over and above (*aufgehoben*) all that is as true being (*das wahre Sein*). The concept is thus made prior to being, and all being must be deduced from the concept.[5] Thought is thus set over and against being as its 'Prius'. Instead of being immanent in the concreteness (*Sachlichkeit*) of being, as the source of its unity, thought is taken out of being and set over against it as an empty abstraction. "Thus rationalism which makes of the concept, taken as true being, the Prius, and taken as the essence of being, the cause of being, ends in dualism".[6]

The second half of the thesis (of which only a short synopsis was published) is given over to an examination of dualism. The methodological error latent in all forms of dualism is the antinomy which it sets up between condition (*Bedingung*), and cause (*Grund*); between the '*ratio cognoscendi*' and the '*ratio essendi*' of the older ontology: the principles of thought do not coincide with the principles of being.

Philosophy which is by its very nature knowledge of being and so implies the immanence of thought and being requires that the logical prius be at the same time the ontological prius.[7] Only when this coincidence has been achieved will logic in the Hegelian sense, logic as metaphysics, as a true logic of being, be possible.

More interesting than the contents of the thesis is the insight it gives us into Rubinštejn's early philosophical studies. Unlike most of the first generation of Soviet philosophers, Rubinštejn had received his early philosophical training outside the Soviet Union and had, moreover, studied under two of the greatest philosophers of his day. His studies outside Russia had put him into contact with the main currents of European philosophy. He was obviously well acquainted with Neo-Kantianism, and his dissertation shows that he had studied Hegel with more than a superficial eye. But it is evident from his major writings that the influence of Hegel was to be more lasting than that of the Neo-Kantians.

2. Academic and Professional Career

Having passed the 'rigorosum' on July 11th, 1913, Rubinštejn moved to Berlin where he probably remained until the outbreak of the First World War in August 1914. He seems to have returned to Odessa the following year, for the obituary notice speaks of him as beginning his 'pedagogical activity' there in 1915. In 1919 he became lecturer in philosophy and psychology at the Novorossiskij University. From then on his rise in

academic circles was rapid. In 1921 he was made head of the Department of Psychology at the Institute for Public Education.

From 1930 to 1942 Rubinštejn headed the *Kafedra* of Psychology at the Leningrad Institute of Pedagogy. During this period he wrote a number of important articles, the most significant being his 'Problems of Psychology in the Works of Karl Marx'. This same period also saw the publication of his major work, *Fundamentals of General Psychology*, the first edition of which appeared in 1940. In this work Rubinštejn attempts to give a general account of the basic problems of psychology from the point of view of Marxist-Leninist philosophy in the light of the four principles of Dialectical Psychology established in the course of the discussions of the early nineteen-thirties. Despite some harsh criticism this work was widely acclaimed and was awarded the Stalin Prize in 1942.

Rubinštejn's work received further recognition in the same year (1942) when he was called to Moscow to found the *Kafedra* of Psychology at Moscow University. He remained Director of the *Kafedra* of Psychology until 1950[8] and at the same time headed the Moscow Institute of Psychology. From 1945 until his death he headed the Department of Psychology at the Institute of Philosophy of the Academy of Sciences of the U.S.S.R. He was elected a Corresponding Member of the Academy of Sciences of the U.S.S.R. in 1953. S. L. Rubinštejn died on the 11th of January, 1960.

B. LITERARY ACTIVITY

1. Up to the Pavlov Conference

Rubinštejn's literary production comprises five major works and many articles. His first two major works, *Fundamentals of Psychology* (1935) and *Fundamentals of General Psychology*, were composed in the period during which he headed the *Kafedra* of Psychology at Leningrad. Many of his more important articles date from that period.

In the eight years during which he headed the *Kafedra* of Psychology in Moscow, Rubinštejn apparently produced nothing of great importance.[9] In 1946 he published a second and slightly revised edition of the *Fundamentals of Psychology*. An article on V. M. Sečenov, first published in 1945, is of special interest as anticipating some of the ideas of the Pavlov Conference of 1950. In the article, which he entitled 'Physiology and Psychology in the Scientific Work of I. M. Sečenov'[10], Rubin-

štejn praises Sečenov for anticipating Pavlov's teaching on conditioned reflexes and for having established the concept of the reflex as the central concept in physiology and psychology, thus overcoming the isolation of psychology from physiology.

In the decade preceding the Pavlov Conference Rubinštejn established himself as the foremost writer on Soviet psychological theory, and his views had been accepted as the most authoritative formulation of psychological theory in the Soviet Union. After the Pavlov Conference of 1950 Rubinštejn's formulation was no longer considered adequate and Rubinštejn found it necessary to revise many of his ideas. He indulged in some mild self-criticism at the Pavlov Conference admitting that he had not devoted sufficient attention to Pavlov's teaching, but the detailed revision of his views did not come until two years later when they appeared in an article in the *Questions of Philosophy*.[11]

The article in the *Questions of Philosophy* occupies a key position among Rubinštejn's works as it forms the bridge between his earlier and later writings. The article can be divided into two parts: the first is a short critical and self-critical examination of the contemporary state of psychology in the Soviet Union; the second part is a detailed 'blue-print' for the reconstruction of psychology on the basis of Pavlovian teaching.

Rubinštejn begins by stating that Soviet psychologists have not yet mastered "the spirit of creative Marxism" nor have they broken completely with 'idealist' influences. The fundamental defect of Soviet psychology has been its failure to make Pavlovian teaching the basis of psychological research. Turning to his own works, he says:

> These defects are clearly evident in our own *Fundamentals of General Psychology*. The chief defect of the *Fundamentals* is its failure to follow the path laid down by Pavlov and its uncritical acceptance of certain principles of foreign psychology. In the course of the exposition which follows, when touching on a series of problems, we shall go against a number of statements made in the *Fundamentals*, giving now a new treatment of the questions considered. The contents of the *Fundamentals of General Psychology* do not reflect those views at which the author has arrived after having studied the well-founded criticisms which have been addressed to him.[12]

There is nothing very startling in Rubinštejn's confession that his most important work had manifested an uncritical attitude towards Western psychology and had not been Pavlovian. The accusation of 'Westernism'

had been leveled time and time again against Rubinštejn, and almost all works on psychology written before 1950 (and many after that date) could have been labeled 'un-Pavlovian'. Immediately after 1950, confessions of 'Westernism' and 'un-Pavlovianism' were common among Soviet psychologists.

The real changes in Rubinštejn's ideas are contained in the plan for the reconstruction of psychology which he outlines in the second part of the article. Rubinštejn gives no details of the criticisms addressed to him, nor does he always indicate where the views expressed in the plan for the reconstruction of psychology differ from those contained in the *Fundamentals*. The changes can only be ascertained by a comparison of the *Fundamentals* with the article under consideration and with his later works. A comparative study of Rubinštejn's ideas will be undertaken in the following chapters. It suffices here to point out that of the four principles of dialectical psychology formulated in the *Fundamentals*, only the first, the principle of psycho-physical unity, has been revised.

According to the principle of psycho-physical unity, the psychic and the physiological form two distinct, though united, principles in man. Within this unity each retains its own specific character and obeys its own specific laws. Rubinštejn replaces this principle by that of 'materialistic monism'. According to the new principle, there is only one principle in man, the material, from which the psychic is derived.

In his schema for the reconstruction of psychology, Rubinštejn outlines a number of theories which require revision in the light of Pavlov's teaching: the psycho-morphological doctrine of location, the peripheral theory of sensation, the nature of perception and the relation of thought and speech, and finally the problem of personality. It will be noted that these are the problems which Rubinštejn listed at the Pavlov Conference.

There can be little doubt that this article represents a genuine change of opinion and not merely an exercise in lip-service to the official line. This is evident in the first place from the detail to which he descends in reconstructing his system of psychology. More convincing still is the fact that similar solutions of the psycho-physical problem were still being proposed immediately after the Pavlov conference and are still being defended by a number of significant and able psychologists. As was pointed out in Ch. II, the theories of N. P. Antonov and V. V. Orlov closely resemble Rubinštejn's earlier views (V. V. Orlov indeed has

criticized Rubinštejn's later theories as excessively monist and too close to vulgar materialism); it is also borne out by the fact that Rubinštejn devoted the last ten years of his life to the elaboration of this revision. Between 1950 and 1960 he published some fifteen articles and three books on the problems outlined in the article under consideration. Consequently, there is no reason to believe that Rubinštejn was in any sense 'forced' to change his opinions; everything points to the fact that he was genuinely convinced of the inadequacy of his earlier theories.

However, with the exception of the substitution of the principle of materialistic monism for that of psycho-physical unity, these revisions do not represent a radical change of opinion. The views on psychological theory – with the exception just mentioned – belong to the category of experimental hypotheses and are compatible with the normal revision of working hypotheses demanded by the normal progress of a science.

The revision of the principle of 'psycho-physical unity' and its replacement by that of 'materialistic monism' represents a more radical change. These two principles come under the heading of philosophical theories and the change involves a revision of Rubinštejn's concept of the nature of psychic phenomena. The principle of 'materialistic monism' implies a closer connection between the psychic and the physiological and a correspondingly greater dependence of the psychic on the material. In the light of the principle of 'materialistic monism', psychic events can no longer be considered as constituting a distinct series of phenomena. Psychic phenomena and physiological phenomena are two sides or aspects of a single series of events.

However, it must be stressed that even taking into account the substitution of the principle of materialistic monism for that of psycho-physical unity, Rubinštejn's fundamental principle of the unity of consciousness and activity, which he formulated in 1934, retains its full validity.

2. *After the Pavlov Conference*

As a result of the Pavlov Conference Rubinštejn's ideas lost the privileged position they had enjoyed in the previous period. Nonetheless the ten years from the Pavlov Conference to his death in 1960 were the most productive of his life, and his ideas still continue to exercise a considerable influence in Soviet psychology.

In 1957 he published *Being and Consciousness*[13], which is undoubt-

edly his most mature work and probably the best book on psychological theory published in the Soviet Union. In *Being and Consciousness* Rubinštejn attempts to present a synthetic theory of the nature of consciousness on the basis of Marxist-Leninist philosophy and Pavlovian physiology. Rubinštejn's fundamental thesis is that the psychic must be considered in relation to the other elements of the material world. Seen in relation to outer material reality, the psychic or consciousness appears as an ideal image or a subjective reflection of the material world. Considered in relation to the inner matter of the brain, it appears as the function of a material organ, or as higher nervous activity. It is Rubinštejn's contention that many of the errors concerning the nature of the psychic stem from the attempt to consider the psychic in isolation from other phenomena or to generalize one particular aspect of the psychic and extend it to other relationships where it does not apply.

As the unifying principle in psychology Rubinštejn sees the so-called Marxist-Leninist theory of determinism. As a general theory, applicable to all parts of the material world, it is formulated as follows: the outer cause works through, and is refracted by, the inner conditions of the object on which it acts. In the light of this principle psychic events are the result of the interaction of the individual with the outer world.

Early in the following year Rubinštejn published a short work entitled *On Thinking and the Paths of its Investigation.*[14] It contains the results of a series of experiments designed to show how the principle of determinism, formulated in *Being and Consciousness*, is realized in thinking.

His last published work, *Principles and Paths of Development of Psychology*[15], is a recapitulation of much of his previous writings on psychology. It contains little that is new and is a more popular presentation of the ideas contained in *Being and Consciousness*. It is, however, the best introduction to Rubinštejn's thought.

With the exception of some experimental investigations on the nature of thinking, Rubinštejn's work has centred on the philosophical problems of psychology. It is here that his significance and importance lies. The significance of Rubinštejn's ideas within Soviet psychology is unquestionable and has already been referred to. Rubinštejn's work has indeed been carried out within the framework of Marxism-Leninism; however, many of the problems he considers go beyond the limits of Marxist-Leninist

philosophy and because of the depth and originality of his thought, his works are important contributions to world psychology.

C. SUMMARY

Summarizing, we can divide Rubinštejn's academic career into four periods:

(1) *Youth and early training*: until 1914. The only work we have from this period is his doctoral thesis, which shows him to be under the influence of the Marburg Neo-Kantians and at the same time deeply interested in Hegel.

(2) *Period at Odessa* (1915–30). For this period I have found only two works on bibliography which do not seem to be of any great importance.

(3) *Dialectical Period* (1930–50). Spent at Leningrad and Moscow. His article 'Problems of Psychology in the Works of Karl Marx' and his *Fundamentals of General Psychology* date from this period.

(4) *Pavlovian Period* (1950–60). Spent at Moscow. During this period Rubinštejn revised many of his earlier ideas. This period was the most productive of his life.

The systematic exposition of Rubinštejn's ideas which follows covers the last two periods listed above.

REFERENCES

[1] 'K 70 letiju so dnja roždenija S. L. Rubinštejna', *VP*, 1959,3, 143. 'Sergej Leonidovič Rubinštejn' [Nekrolog], *VF*, 1960,2, 179–180. Cf. also *VP*, 1960,1, 46.

[2] S. L. Rubinštejn, *Eine Studie zum Problem der Methode*. 1: *Absoluter Rationalismus*, Teildruck von Sergei Rubinstein. Inaug. Diss. Marburg, 1914.

[3] "Die Immanenz von Denken und Sein ist also ihre wie aller wahren Philosophie notwendige Basis." *Ibid.*, p. 2.

[4] "Denken und Sein, sie sind dasselbe." *Ibid.*, p. 3.

[5] The dialectic by which being evolves from the concept is the 'method' of Rationalism which Rubinštejn here subjects to a critique.

[6] Rubinštejn, *op. cit.*, p. 65.

[7] "Das Logische muss als das Tranzendental-Logische so umgeprägt werden, dass sein Ordnungs- und Abhängigkeitszusammenhang gerade derjenige des Seiende sei, dass im logischen System, dem tranzendentalen, gerade das dem Begriffsgehalt nach das Erste sei, was im Begründungszusammenhange der Seinsordnung nach das Erste ist." *Ibid.*, pp. 66–67.

[8] For an account of the work in progress at the *Kafedra* of Psychology at the Leningrad Pedagogical Institute at the end of the nineteen-thirties, see Rubinštejn, 'Naučno-

issledovatel'skaja rabota Kafedry psixologii gosudarstvennogo pedagogičeskogo instituta im. A. I. Gercena' [Scientific Research at the Kafedra of the A. I. Herzen State Institute of Pedagogy], *UZ LGPI*, 1939,18, 141–144.

[9] Cf. Bibliography.

[10] 'Fiziologija i psixologija v naučnoj dejatel'nosti I. M. Sečenova' [Physiology and Psychology in the Scientific Activity of I. M. Sečenov], *Sov. Ped.* 1945,11, 40–44.

[11] Rubinštejn, 'Učenie I. P. Pavlova i nektorye voprosy perestrojki psixologii' [The Teaching of I. P. Pavlov and some Problems of the Reconstruction of Psychology], *VF*, 1952,5, 197–210 (henceforward: Rubinštejn, 'Perestrojka').

[12] "Eti nedostatki otčetlivo vystupajut v našix 'Osnovax obščej psixologii'. Glavnym nedostatkom 'Osnov' javljaetsja to, čto oni ne sledovali po pavlovskomu puti i nekritičeski vosprinjali nekotorye položenija zarubežnoj psixologii. V xode dal'nejšgo-izloženija my po rjadu zatragivaemyx nami problem pojdem vrazrez s temi ili inymi položenijami 'Osnov', davaja teper' novuju traktovku rassmatrivaemyx voprosov. Soderžanie 'Osnov obščej psixologii' ne otražaet tex vozzrenij, k kotorym v nastojaščee vremja prišel ix avtor, učtja napravlennuju po ego adresu spravedlivuju kritiku." Rubinštejn, 'Perestrojka', p. 198.

[13] Rubinštejn, *Bytie i soznanie. O meste psixičeskogo v vseobščej vzaimosvjazi javlenij material'nogo mira* [Being and Consciousness. On the Place of the Psychic in the General Interconnection of the Phenomena of the Material World], M. 1957 (henceforward: Rubinštejn, *Bytie i soznanie*).

[14] Rubinštejn, *O myšlenij i putjax ego issledovanija* [On Thinking and Paths of its Investigation]. M. 1958 (henceforward: Rubinštejn, *O myšlenij*).

[15] Rubinštejn, *Principy i puti razvitija psixologii* [Principles and Paths of Development of Psychology], M. 1959 (henceforward: Rubinštejn, *Principy*).

CHAPTER IV

THE RECONSTRUCTION OF PSYCHOLOGY

A. PSYCHOLOGY AND MARXIST-LENINIST PHILOSOPHY

The reconstruction of psychology and its establishment on a firm Marxist-Leninist foundation has long been the ideal of Soviet psychologists. As early as 1923, K. N. Kornilov called for the construction of a new 'Marxist' psychology to replace the old 'bourgeois idealist schools'[1], and the same call has been reiterated by almost every Soviet psychologist since.

It is precisely this same ideal which Rubinštejn sets out to realize. The idea of reconstruction (*perestrojka*) is central to Rubinštejn's thought – as it is to much of Soviet psychological theory. Rubinštejn's first significant work on psychology was an attempt to determine "the basis for the construction of a Marxist-Leninist psychology" [2], and writing in 1945, he declared that the most important task for Soviet psychologists is to construct psychology on Marxist-Leninist foundations by overcoming the basic concepts and oppositions of traditional psychology.[3] He repeated the same idea in 1952 when he stated that Soviet psychology is faced with "the task of reconstructing psychological science".[4]

Psychology must be reconstructed because it is in a state of crisis. A large part of Rubinštejn's writings is devoted to an analysis of the critical state of world psychology; it is a theme to which Rubinštejn returns frequently in the course of his works. There is some variation in the analysis of the crisis in psychology between Rubinštejn's earlier and later works. In the works written after 1950 his analysis is more detailed and he attempts to give an overall account of non-Marxist psychology. The earlier accounts – e.g. in the article on Karl Marx and in the *Fundamentals* – is undoubtedly oversimplified but it is at the same time more penetrating. In these earlier works he is concerned with laying bare the source of the crisis and consequently is more selective in the details. Nonetheless, the analysis is basically the same in both cases. Rubinštejn's more detailed description of Western psychology interests us less than his analysis of

what he considers to be the crisis in contemporary psychology. We shall therefore concentrate on the earlier accounts, indicating in passing where Rubinštejn has changed his opinions. The analysis of the crisis in psychology is chronologically the starting-point of Rubinštejn's psychological investigations; it is also the logical starting-point for the exposition of his thought.

1. The Crisis in Psychology

According to Rubinštejn, the crisis in psychology is a crisis of the philosophical foundations of that science. It is, moreover, one episode in a more general crisis affecting the whole of science. It reflects the bankruptcy of 'bourgeois idealist philosophy' and its inability to provide a methodological foundation for natural science.[5] Idealist philosophy has, in consequence, shown itself incapable of solving the fundamental problems of psychology; the nature of the psychic and its relation to the material world.[6] There is no agreement among psychologists on the object of their science, and psychology has, as a result, disintegrated into a multiplicity of conflicting schools.[7]

Behind this multiplicity of schools – Rubinštejn mentions in particular introspectionism, behaviourism and *Geisteswissenschaftliche Psychologie* (*psixologija duxa*) – lies a common notion of the psychic which is responsible for the critical state of the science.[8] The fundamental error, common to all of these schools, is the equation of the psychic with the phenomena of consciousness.[9] This concept of the psychic has vitiated all psychological theory since Descartes.

Descartes rejected the Aristotelian concept of the psychic or soul as the principle of life; for Descartes the psyche ceased to be the vital principle in man and became instead identified with thought, knowledge and consciousness.[10] Descartes used the terms *cogitatio* and *mens* and defined it as "all that of which we are conscious as operating in us".[11] Descartes thereby introduced the method of introspection and laid the foundations for the introspectionist conception of consciousness; consciousness as self-reflection. This conception of the psychic has determined the course of psychology ever since.[12]

The introspectionists[13], following Descartes, conceive of psychology as the study of the phenomena of consciousness by the subject to whom these phenomena are immediately given.[14] The method to be employed

is introspection or self-observation by means of which the subject investigates the content of his own consciousness. The purpose of this operation is to attain psychic phenomena in 'pure form' by separating them from all that is objectively mediated or related to the outer world.[15] The psychic or consciousness is thus "locked away" (*zamykat'*) in a world of inner experience, isolated from external reality, its workings known only to the subject himself.[16] As a result, the possibility of objective knowledge of another's conscious life is excluded.[17] According to Rubinštejn, such a conception of the psychic rules out possibility of objective knowledge of the psychic even on the part of the subject himself, for the psychic is totally isolated from objective reality and the subject has no means of objectively verifying his own mental states.[18] Consequently the extreme (and for Rubinštejn the only consistent) introspectionists declare that the data of introspection are absolutely trustworthy; such data can neither be denied nor verified since their very immediacy excludes the possibility of an objective criterion.[19] Objective knowledge of psychic events is as impossible for the subject as for the outside observer.

It is Rubinštejn's contention that this conception of the psychic has influenced all non-Marxist schools of psychology, even those most opposed to introspectionism.[20] Isolated from external material being, the psychic has at the same time been isolated from human activity. Man's activity therefore becomes a complex of reactions bearing no relation to consciousness and related immediately to external stimuli. This is the concept of human activity put forward by behaviourism. The starting point for behaviourism is the introspectionist thesis that the psychic is unattainable to objective observation or verification.[21] Hence consciousness cannot be the object of psychology and all subjective factors are considered as lying outside the limits of scientific investigation. All that is left to psychology as an object of investigation is human activity considered as mere external behaviour, i.e. as the totality of man's reactions to the external stimuli of his environment. Behaviourism, which Rubinštejn classes as vulgar mechanism, is no more than a by-product of introspectionism, and ultimately of idealism.[22]

In *Being and Consciousness* and in *Principles*[23] he analyses the relation between introspectionist psychology and behaviourism somewhat differently. In these two works and in a long article published in 1957[24] he lays considerable stress on what he considers to be the influence of

Machism on introspectionist psychology. Mach had maintained that all empirical statements could be reduced to statements about sensations. There is no distinction between things (*Dinge*) and phenomena (*Erscheinungen*). What we call bodies are mere complexes of sense-data; there is no justification for postulating a substance behind the phenomena. The application of Mach's radical empiricism to psychology by psychologists like Wundt, James and Titchner has led, in Rubinštejn's view, to the conclusion that consciousness, like matter, has disappeared. What in fact has happened is, according to Rubinštejn, that consciousness in the form of experience (*Erfahrung*) or sensation has been substituted for its object, being. Consequently psychology has been left with external activity as the only possible object of investigation. Thus the ground was prepared for behaviourism as the science of human reactions.

In both accounts, Rubinštejn's analysis of the crisis in psychology is essentially the same. In his earlier works he presents behaviourism as the result of the *isolation* of consciousness; in his later works he describes it as the result of the *disappearance* of consciousness.

In the article on Karl Marx and in the *Fundamentals* Rubinštejn adds a third consequence of the isolation of consciousness from the material world and the resultant reduction of human activity to mere behaviour, namely, the isolation of human activity from its products and the dissolution of the connection of ideology with activity.[25] This dissolution has provided the starting-point for the psychology of the spirit (*psixologija duxa*). In this connection Rubinštejn mentions in particular the *geisteswissenschaftliche Psychologie* of Spranger. Through his activity man changes nature and creates social culture; transformed nature and social culture are reflected by consciousness and constitute its objective content. But once consciousness has been isolated from the external world and the connection between consciousness and activity has been broken, the objective content of consciousness can no longer be explained as a reflection of external reality and so becomes an autonomous and mysterious, subjective, ideal world.[26]

Such is Rubinštejn's analysis of the critical state of world psychology. The real, conscious, historical individual has been dismembered and psychology is left struggling with three abstract conceptions of its proper object. If psychology is to emerge from this crisis and becomes a unified science it must find a unified object.

Rubinštejn rejects from the outset the proposal, put forward by Bühler and Kornilov, for the establishment of a unified object through a synthesis of introspectionism, behaviourism, and the Psychology of the Spirit.[27] In this way these three systems would be considered as three aspects of the one object. Such a synthesis, Rubinštejn says, would merely be the sum of three erroneous conceptions of the psychic and the second state would be worse than the first. What is required is not an addition of opinions but a radical reconstruction of the science.[28] At the heart of the crisis is a false concept of consciousness. The crisis has been caused by an erroneous concept of the psychic, which each of the conflicting schools has, in one way or another, taken as its starting-point. Consciousness has been conceived as isolated from the material world; it must be led out of its isolation and restored to its proper place in the interconnection of the phenomena of the material world. The reconstruction of psychology will demand a thoroughly new concept of consciousness and with it will come an equally new concept of human activity.[29]

2. The Basis for Reconstruction

Having diagnosed the cause of the crisis, Rubinštejn prescribes the remedy. The crisis in psychology is a crisis of the philosophic foundations of the science. It has arisen because the philosophical foundations on which it has been built are insecure. If psychology is to be reconstructed it must be rebuilt on new solid philosophical foundations. Only Marxist-Leninist philosophy can provide a sound methodological basis for natural science in general and for psychology in particular. Rubinštejn expresses the situation as follows:

> Soviet psychology was faced with the task of building a psychological system on a new Marxist-Leninist foundation. ... That meant ... creating new attitudes on the basis of the Marxist-Leninist dialectic and discovering new ways of solving the basic theoretical problems of psychological thought.[30]

After the Pavlov Conference of 1950 Rubinštejn added a new element to the reconstruction of psychology: the teaching of Pavlov. After 1950 he insists that psychology must be founded not only on Marxist-Leninist philosophy but also on the teaching of Pavlov. Echoing the resolutions of the Conference Rubinštejn states that Pavlov's teaching provides the "natural-scientific foundation for psychology".[31] At the same time the reconstruction of psychology on the principles of Pavlovian higher

nervous activity is considered by Rubinštejn – and by Soviet psychologists generally – as merely one element in the construction of the science of Marxist-Leninist philosophy. Rubinštejn refers to Pavlov's teaching as "the dialectical-materialist teaching on higher nervous activity".[32] The Pavlovization of psychology is considered as a means to the 'Marxification' of psychology. Rubinštejn sums up this idea in the following passage:

> The fundamental task involved in the reconstruction of psychology is above all the creative and consistent realization of Marxism in psychology. The Pavlovian teaching on higher nervous activity is the natural-scientific path to the fulfillment of that task.[33]

Pavlovian teaching is therefore considered as the complement of 'Marxist' philosophy in the field of psychology. Psychology must be *Pavlovian* in order to become *Marxist*.[34] It is not a question of founding psychology on 'Marxism' *and* Pavlovism, but of making it '*Marxist*' *by* making it *Pavlovian*.

3. A New Concept of the Psychic

The first effect of the reconstruction of psychology on the basis of Marxist-Leninist philosophy is that a new concept of consciousness arises and with it a new concept of human activity. The chief error of traditional idealist philosophy has been the isolation of consciousness from material reality – its alienation.[35] Idealist philosophy bequeathed a false notion of the nature of the psychic to psychology. The psychic was presented as unrelated to the material world and human activity became mere mechanical behaviour.

As a result of the reconstruction of psychology, consciousness appears as inseparably connected with the material world. Consequently human activity ceases to appear as mere external behaviour but is seen as inseparably connected with consciousness.

The body of Rubinštejn's writings is devoted to the elaboration of this new conception of the psychic. In places his thought is extremely complex and has evidently evolved over the years. But his fundamental purpose remains the same, namely to elaborate a new concept of the psychic which will allow it to be inserted into the interconnection of the phenomena of the material world. In the twenty-three years which separate the article on Karl Marx from *Being and Consciousness*, Rubinštejn's

thought matured, and his treatment of many problems is clearer and more synthetic in *Being and Consciousness* and *Principles* than in his earlier writings. In the rest of this chapter an attempt will be made to outline the development of Rubinštejn's thought on the nature of psychic phenomena.

In the works written before 1950 Rubinštejn is primarily concerned with the crisis in psychology and in particular with solving the opposition between behaviourism and introspectionism. Later this problem falls into the background and he is more directly concerned with the problems posed by the Pavlovization of psychology.

4. The Unity of Consciousness and Behaviour

In opposition to the introspectionist notion of consciousness on the one hand and to the behaviourist notion of human activity on the other, Rubinštejn puts forward the principle of the unity of consciousness and behaviour. All of his earlier works are built around this principle which he refers to as "the basic principle of Soviet psychology".[36] This principle must provide the starting-point for the reconstruction of psychology.

Briefly, the principle of the unity of consciousness and behaviour states that consciousness and behaviour are not two isolated entities, the former entirely 'internal' the latter entirely 'external'. Consciousness and behaviour interact and interpenetrate each other. It means that consciousness is not merely a passive contemplative entity but is an active principle in man's behaviour. Behaviour in its turn has a "psychological structure". It cannot be entirely explained in terms of the external stimulus but is determined by consciousness which directs and guides it.[37]

Rubinštejn claims that the principle of the unity of consciousness and behaviour is implicit in the Marxian conception of human activity. As expounded by Rubinštejn, man's activity is conceived of by Marx as a dialectic of subject and object: it is an objectivization (*opredmečivanie, Vergegenständlichung*) of the subject and a de-objectivization (*raspredmečivanie, Entgegenständlichung*) of the object. In activity, subject and object interpenetrate.[38]

a. Subject to Object

In the first place man's activity expresses, makes objective, his inner subjective world:

Every human act starts from definite motives and is directed towards a definite goal: it fulfills a definite task and expresses a definite relationship of man to his environment. It unites in itself the whole work of consciousness and the fulness of immediate experience.[39]

Human activity is more than a series of reactions. It presupposes a whole system of subjective factors apart from which it is incomprehensible. These include in the first place man's experience, his feelings and his instincts. All of these serve to regulate his activity. But more important still, man's activity is regulated by his consciousness, his knowledge of the external world. His consciousness serves to guide and direct his activity and enables him to orientate himself in the world around him. When a man acts consciously the whole structure of his activity changes. Conscious activity has a different structure from non-conscious or purely reflex activity.[40] The laws of human activity surpass the laws of physiology. Human activity is not purely external phenomenon; it contains internal, subjective elements. It is, in short, a unity of the internal and external.[41]

If human activity cannot be considered as purely 'external' then it is also true that consciousness is not a purely 'internal' phenomenon. The fact that consciousness enters into the composition of human activity means that consciousness cannot be isolated from the external world. Through activity the psychic is projected into the external world. Man's activity expresses, makes objective his inner subjective world. Through his activity man changes nature; he impresses on it something of his own subjective world – his motives, his abilities, his goals. In this way his activity and the products of that activity express and reveal his inner world.[42]

b. Object to Subject

So far the interrelation of consciousness and behaviour has been presented as a movement from subject to object: consciousness impresses itself on activity thereby changing it and consequently expressing or objectivizing itself in activity. The relation of consciousness to behaviour also takes the form of a movement from object to subject. This is the fundamental and primary form of the relation of consciousness and behaviour. It has two moments, *reflection* and *production.*

(i) *Consciousness Reflects Objective Reality.* The movement from subject

to object is realized in the first place on the level of cognition. Consciousness is a reflection of being; it is determined by the object it reflects:

> Consciousness is the specific form of the reflection of objective reality existing outside and independently of consciousness. ... Its inner content is determined by its relation to the objective world.[43]

Though consciousness arises in the subject and exists only in the subject it is not thereby a purely subjective phenomenon. The formal content of consciousness is an image or reflection of objective reality.

It should be noticed that Rubinštejn does not deny that consciousness is determined by its relation to the subject to which it belongs. On the first page of the *Fundamentals* he underlines the uniqueness of each individual psychic phenomenon, the result of belonging to an individual subject and being determined by his individual subjective characteristics:

> To be a property of an individual, of a subject ... is the first characteristic note of everything psychic. Psychic phenomena appear as processes or properties of concrete individuals; as a rule they bear the mark of their unusual proximity to the subject who experiences them.[44]

There is an incommunicable element in every experience and no amount of description can reveal to another our inner feelings exactly as we ourselves experience them. Psychic phenomena are determined in the first place by their relation to the individual to whom they belong.

The error of idealist philosophy was to make the relation to the subject the sole determinant of psychic phenomena. But psychic phenomena are also essentially related to the objective world.

> If belonging to an individual, a subject, is the first essential note of the psychic, its relation to an object which is independent of the psychic, of consciousness, is its second and no less essential note.[45]

Consciousness is, to use Marx's expression, the consciousness of being (*das Bewusstsein ist bewusstgewordenes Sein*).[46] Every experience is related to some object; it is always an experience of something. Accordingly it surpasses the limits of the inner world. Moreover, according to Rubinštejn, to become conscious of an experience means to relate it to the object which called it forth. One experience is distinguished from another by its object: "Its inner nature reveals itself by its relationship

to the outer world".[47] Consciousness is not a turning inward on our own subjective states but a turning outwards towards the outer world by relating our inner states to the objects which called them forth. Consciousness is a "unity of experience and knowledge"[48] of inner and outer. It is determined by the object it reflects.

(ii) *The Evolution of Consciousness.* The movement from object to subject is realized on a more fundamental level than that of cognition. The object is not only reflected in the subject, constituting the objective content of consciousness; the object produces the subject. Until now the dialectic of subject and object has been considered as the interrelationship of two *constituted* entities. The present consideration takes into account the evolution of consciousness from the material world or the evolution of the subject from the object. The object produces the subject in the course of a long process of evolution.

The problem of the evolution of consciousness is only mentioned by Rubinštejn in the article on Karl Marx. In keeping with the general plan of the article he is concerned with showing that activity is not merely a projection of man's consciousness into the external world but is also the means by which man's consciousness, and his psychic powers in general, are developed. Consciousness not only determines and directs activity but is in turn formed and transformed by that activity. The activity by which man transforms external reality transforms at the same time his subjective world.[49] The idea is borrowed from Marx, and Rubinštejn quotes in this context the well known text from *Das Kapital*: "By acting on the external world and changing it, he, at the same time, changes his own nature".[50]

Rubinštejn's thought on this point is not clearly expressed in the article on Karl Marx. The same idea is found in other writings of Marx, particularly in the *Economic and Philosophic Manuscripts* of 1844[51] but even here Marx's meaning is not immediately evident, and Rubinštejn, who also quotes the *Manuscripts*, does little to explain it.

The general lines of the argument in the article on Karl Marx are, however, clear enough: man through his activity transforms the outer world and so impresses something of his own inner world on it. Rubinštejn, following Marx, goes on to say that this process not only changes the outer world, but also man himself. While it is clear how human activity, or work, changes reality, it is not clear how it changes

the agent. To change the agent or subject could merely mean to develop his already existing potencies; to develop, e.g., new habits and skills. This indeed seems to be Marx's meaning in the passage from *Das Kapital* quoted above, for Marx continues: "He develops his slumbering powers and compels them to act in obedience to his sway."[52] But both Marx and Rubinštejn seem to have more than this in mind. In the *Manuscripts*, which Rubinštejn quotes at this point, Marx states:

> Only through the objectively unfolded richness of man's essential being is the richness of subjective *Human* sensibility (a musical ear, an eye for beauty of form – in short *senses* capable of human gratifications, senses confirming themselves as essential powers of *man*) either cultivated or brought into being.[53]

The meaning here, for Rubinštejn as for Marx, is that man's subjective characteristics – with his consciousness taking pride of place – and the whole richness of his psychic life have evolved through his interaction with his environment.

The problem of the evolution of consciousness from the material world is extensively treated in the *Fundamentals* where Rubinštejn devotes some one hundred pages – the whole of the second section of that work – to the problem.[54] The evolution of consciousness has both a phylogenetic and an ontogenetic side.

(a) *The Phylogenetic Evolution of Consciousness.* In the *Fundamentals*, Rubinštejn begins the discussion of the evolution of consciousness by explaining the notion of evolution.[55] In the first place, evolution is not a matter of gradual change of "decrease, increase, repetition". It is dialectical and proceeds by dialectical leaps. In the second place, evolution is materialist. Matter is primary and the psychic is derived; the psychic is a product of the development of the material world.[56]

More immediately "the psychic is a product of the evolution of organic life". In other words, the evolution of psychic functions, at least in the early stages of development, follows the general laws of biological evolution. It is a law of biology that, in order to survive, an organism must adapt itself to the changing conditions of the world around it. This adaptation has brought about changes in the structure of the organism which have ultimately led to the evolution of the brain and nervous system, which are the organs of the psychic.[57]

In order to adapt to the changing environment an organism must

adopt a new way of life. This requires the development of new forms of *activity*, which in their turn require the development of new *structures* capable of producing such activity. From one point of view the structure – e.g. the brain – determines the behaviour which in its turn determines the way of life of the organism. From another point of view it is the way of life which determines the activity because it demands that activity and this in its turn demands the evolution of the corresponding structure. However, according to Rubinštejn, these are two aspects of a single, unified process. The governing principle in biological evolution is the principle of the unity of structure and function.[58] Structure and function develop as a unity: the developing structure permits more perfect forms of activity but these forms of activity in their turn develop the structure. The unified development of structure and function occurs under the influence of the changing conditions of life of the organism.[59]

Psychic characteristics are an element in the biological evolution of the organism. They evolve as a result of the need of the organism for greater flexibility in its interaction with its environment.[60] Psychic activity, like any other form of biological activity, demands a special type of structure for its production, namely, a brain and nervous system. At the same time like any other function it plays an active part in the development of the structure which produces it.[61]

The evolution of psychic functions in the animals is determined by the general laws of biological development. However, with the evolution of the human psyche new laws come into operation. The psychic development of man is determined by the laws of socio-historical evolution. The laws of biological development do not thereby lose their significance but are 'sublimated' i.e. they are retained in a changed form.[62]

The appearance of the human psyche represents a 'leap' in the evolution; it constitutes a qualitatively new stage in the evolutionary process.[63] However, as with the evolution of the lower forms of the psychic, this new stage is brought about by the changing conditions of the organism which demanded a new form of activity – work activity – which in its turn demanded a new corresponding form of psychic regulation.[64] In this way the evolution of the human psyche follows the general pattern of biological development: the unified development of structure and function under the influence of the changing environment.

Rubinštejn describes the evolution of man from the higher apes as

follows: A distant ancestor of man climbed down from the branches and gradually accustomed himself to an upright gait. This freed his hands so that what had been previously used for climbing was now used for grasping tools. This provided the necessary conditions for work activity. The development of the hand as an instrument of work demanded a corresponding development of the cognitive faculties. In the first instant the sense of touch in the hand had to evolve to provide it with the necessary degree of differentation required for the use of tools. With it came the development of the other senses.[65]

Work in its turn demanded a closer co-operation between men, and the need for communication arose.[66] This led to the development of speech and of the organs required for its production and reception. The evolution of speech was an important stimulus for the further evolution of human consciousness. As a result of speech and communication the consciousness of the individual was no longer restricted to his own personal experiences. Through speech he came to share in the experiences of other men and of society. Consciousness became less an individual, personal phenomenon and became more a social entity.[67]

In this way human consciousness and all man's psychic characteristics developed to meet the needs of a particular form of activity. Its evolution follows the general laws of biological development. However, once the human psyche has come into being it is governed by new socio-historical laws. The evolution of the animal psyche is entirely dependent on the changes of the environment.[68] The environment must first change before the animal psyche can change. From this point of view it is passive in relation to its environment. With man it is different; his activity takes the form of productive labour. By his labour man changes and so creates a new environment and new conditions for development.[69] It is in this sense that man can be said to create himself by his own labour – by transforming nature to transform himself. This is what Rubinštejn calls the historical development of the psychic. Man's psychic life is determined not only by raw nature but by nature as transformed in the course of history, a history of which man himself is the creator.

In the course of its historical evolution the human psyche takes on an increasingly social character. As mentioned above, labour demands co-operation and communication. But as man's labour becomes more specialized, division of labour becomes more necessary. Consequently,

man's activity is no longer directed to the immediate satisfaction of his own personal needs but to the satisfaction of those of the community.[70] To satisfy his own personal needs a man must first satisfy those of society. In this way, not only man's consciousness but also his needs and his motives change in the course of historical evolution.

(b) *The Ontogenetic Evolution of Consciousness.* The laws of evolution operative in phylogenesis are also active on the level of ontogenesis. The evolution of the individual consciousness is (in part) a product of the interaction of the individual with his environment. The consciousness of the individual develops through activity. In acting on the material world and changing it the individual at the same time changes himself.

Rubinštejn begins by pointing out that the evolution of the human race is realized in the evolution of the individuals of the race.[71] But on the other hand the evolution of the individual is determined by the previous historical evolution of humanity.[72] In the first place, the brain and nervous system which the individual inherits is a product of a long process of evolution. The possession of a human brain and nervous system is the necessary prerequisite for human development. Through his consciousness, which is a function of the brain, the individual can acquire all the riches of human culture.[73] Moreover, the world which the individual consciousness reflects is not raw nature but nature transformed and fashioned by human activity – "the objective being of material and spiritual culture which has arisen in the course of history".[74] Individual development consists in the gradual acquisition of human culture built up in the course of history.

The development of the individual's psychological characteristics is, of course, a process of maturation. His consciousness is formed through the acquisition of human culture and science, but his ability to acquire them depends on the gradual maturation of his brain and psyche. However, following the decree on Pedology, Rubinštejn also insists on the active role of education in the development of the psychic. The child develops by being educated and trained. The degree of maturity attained by the child does not unilaterally determine the extent to which the child can be trained. Maturation and training are two sides of a single process: the child develops and matures by being trained.[75]

The insistence on the active role of education in the formation of the

human psyche adds one more element to the objective determination of the subject. The purpose of this long discussion of the evolution of consciousness is to explain how the psychic in its origin is intimately connected with the material world and how the evolution of consciousness from the material world is determined by the principle of the unity of consciousness and behaviour which Rubinštejn takes as the guiding principle in all his investigations. The principle of the unity of consciousness and behaviour is realized on the phylogenetic level by reason of the fact that human consciousness has evolved as the necessary condition for a particular form of activity – human labour.

On the ontogenetic level the principle of the unity of consciousness and behaviour is realized in a somewhat different way. The activity of the individual develops his consciousness. Consciousness develops through an ever deeper knowledge and reflection of the world around him. But the individual learns to know the world by changing it. Knowledge is acquired through activity. However, it would appear that the activity of the race plays an equally important role in the evolution of the individual consciousness. Since the reality which the individual's consciousness reflects and by which it is formed is "the objective being of material and spiritual culture which has arisen in the course of history", the consciousness of the individual formed by the activity of the race by reflecting the products of that activity.[76]

This last consideration underlines the social nature of consciousness. The objective reality by which consciousness is determined is a social entity. It would probably be an exaggeration to say that for Rubinštejn, as for Marx, nature unrelated to man does not exist. But when Rubinštejn speaks of the objective determination of consciousness he is primarily concerned with the "objective being of material and social culture". This idea is summed up by Rubinštejn in the article on Karl Marx where he writes:

> My consciousness in its inner essence is mediated by objective connections which are established in social practice, in which I am inserted and into which I enter by every act I perform, both practical and theoretical.
>
> Every element of my activity and I myself are entwined in it by a thousand threads; I am included by a multitude of different connections in the objective forms of historically formed culture and my consciousness is mediated by them.[77]

5. Recapitulation

The last consideration – the ontogenetic development of the human psyche – concludes the survey of the new concept of the psychic as elaborated by Rubinštejn between 1934 and 1950. Before passing on to a consideration of the later developments of this concept it will be useful to summarize briefly the main points again.

(1) In contrast to the 'introspectionist' concept of consciousness and to the 'behaviourist' concept of human activity, Rubinštejn proposes a new concept of consciousness and human activity based on the principle of the unity of consciousness and behaviour.

(2) The principle of the unity of consciousness and behaviour states that consciousness and behaviour are not two separate entities, the one entirely 'internal' and subjective, the other entirely 'external' and objective. Consciousness and behaviour interact and are mutually determining.

(3) The unity of consciousness and behaviour is founded on the unity and mutual determination of subject and object.

(4) The first movement is from object to subject: The subject arises through the evolution of the objective material world. Consciousness, which constitutes the subject as subject, has been evolved to meet the need for a particular form of activity required for the adaptation of the organism to the demands of a changing environment.

(5) The presence of consciousness changes the structure of activity. Conscious activity has a different structure from activity which is not consciously directed. Through his activity the subject begins to impress something of its interior characteristics on the outer world and to change it. Thus a movement from subject to object is inaugurated.

(6) The action of the subject changes the objective environment and so creates new conditions for the further development of the subject. In this way man is self-creating; in transforming reality he transforms himself. Subject and object, man and nature, consciousness and behaviour evolve as a unit.

(7) On the level of cognition consciousness is essentially a reflection of the material world. Its objective content is an image of objective reality. But consciousness is not a merely contemplative function; its function is to guide and direct human activity. Consciousness is inserted between

need and object. It permits the abstraction of the object of activity from the immediate personal need and provides the conditions for social motivation.

(8) In the course of ontogenesis the individual consciousness develops under the influence of human culture which it acquires through training and its own activity.

B. THE PAVLOVIZATION OF PSYCHOLOGY – A NEW SYNTHESIS

The principle of the unity of consciousness and behaviour and the system of psychological theory founded on it was evolved by S. L. Rubinštejn between 1934 and 1940. Rubinštejn's formulation dominated Soviet psychology until 1950 when the Pavlov Conference, held in June and July of that year, decreed the 'Pavlovization' of psychology. The resultant change in Soviet psychological theory has already been discussed in Chapter II, and the revision of his ideas which Rubinštejn subsequently made has been referred to briefly in the preceding chapter. Our purpose in the present section is to examine in detail the development of Rubinštejn's ideas after 1950.

When compared with his earlier writings, Rubinštejn's thought after 1950 manifests elements of revision and development: revision in the sense of rejecting some of the statements made earlier; development in the sense of perfecting and clarifying many of his earlier ideas. Of the two, the element of development predominates. Rubinštejn's later works undoubtedly represent a genuine progress towards a more perfect synthesis and a closer adherence to the principles of Marxism-Leninism.

It will be remembered that the most important problem for psychology raised by the Pavlov Conference was that of determining the relation between higher nervous activity and psychic phenomena. As Rubinštejn pointed out in his address to the Pavlov Conference, Pavlov's teaching implied a definite standpoint on the problem 'brain and psyche'.[78]

The problem of the relation between consciousness and the brain receives only summary treatment in Rubinštejn's earlier works where he is mainly preoccupied with the relation of the psychic or consciousness with external reality. He seeks a solution for the problem of the multiple relation of the psychic to the external world in terms of the principle of the unity of consciousness and behaviour. When he does stop to consider

the relation of the psychic to the brain he is usually content merely to state that the psychic is a function of the brain.[79]

In the *Fundamentals*, where he devotes some five pages[80] to the discussion of the relation of the psychic and the brain, Rubinštejn has recourse to the principle of psycho-physical unity. This unity is conceived of as a unity of interaction and interdetermination in which both psychic and physical retain their own specific qualitative characteristics. Rubinštejn speaks of the brain and nervous system as the "immediate material substrate"[81] of the psychic and declares that psychic processes are not reducible to the neuro-physiological processes in the brain.

As pointed out in the previous chapter, Rubinštejn later repudiated the principle of psycho-physical unity in favour of the principle of materialistic monism. While it is likely that he did not give the problem of the relation of the psychic to the brain very careful consideration prior to 1950, it is almost certain that he envisaged the brain as having two functions, psychic and physiological. In other words, the neuro-physiological processes in the brain and thought are two distinct processes, or as Rubinštejn puts it in the article written in 1952, "two principles" (*načaly*).[82]

The principle of psycho-physical unity thus introduced a certain dichotomy between the psychic and the physiological which was untenable in the light of the new 'Pavlovian' line in psychology. If the brain has two functions, one psychic and the other physiological it would follow that Pavlov's teaching on higher nervous activity is valid for the physiological processes in the brain but not for psychic processes as such. In this case one can hardly speak of 'Pavlovization' of psychology. Rubinštejn, in fact, seems to have held the view that the principles of higher nervous activity are only valid for the physiological activity of the brain, for in the *Fundamentals* he refers to higher nervous activity as the "physiological basis of psychic activity".[83]

The least satisfactory aspect of Rubinštejn's theory that psychic activity is an activity distinct from the neuro-physiological processes in the brain is that it leaves the question of the precise nature of the psychic processes unanswered. This problem will be discussed in greater detail in Chapter VI, but it suffices for the moment to point out that if psychic processes are not neuro-physiological processes then they must be some kind of purely ideal process. Hence Rubinštejn is left with a duality of matter and psychic.

Rubinštejn's own criticism of the principle of psycho-physical unity is that it is "at best ambiguous", and that it presents the psychic and the physical as "two principles", whereas there is only "one single principle, the material, in relation to which the psychic is derived".[84] It is moreover clear from Rubinštejn's quotation at this point of a text from Stalin to the effect that dualism recognizes two principles, the material and the ideal, that he considers the formula "psycho-physical unity" dangerously close to dualism, and therefore to idealism.[85]

In the *Fundamentals* Rubinštejn presents the principle of psycho-physical unity as an application of the principle of the unity of consciousness and behaviour.[86] When he comes to reconsider the principle of the unity of consciousness and behaviour in the *Principles*[87] he has much the same criticism to make of it as of the principle of psycho-physical unity, namely, that it implied a duality of psychic and material. The principle, he says, failed to express adequately the relation between consciousness and activity. It presented it as an "external relation between two isolated members (*členy*)" and did not determine which was primary and which derived.[88]

The imperfection of the principle reveals, in Rubinštejn's opinion, the extent to which Soviet psychology was influenced by the separation of consciousness and behaviour.[89] The pressing need for Soviet psychology at the moment of its foundation was to find a formula which would solve the introspectionist-behaviourist crisis by reuniting consciousness and behaviour. This formula was the principle of the unity of consciousness and behaviour, which became the starting-point for the construction of Soviet psychology. The principle underlined the interaction and interrelation of human activity and human consciousness and has remained even to today an integral part of Soviet psychology.[90] However, the principle of the unity of consciousness and behaviour was conditioned by the crisis it was intended to solve. While it adequately expressed the interdependence and interaction of consciousness and behaviour, it still retained something of the dualism it was intended to overcome.

In Rubinštejn's own estimation the chief defect of his earlier synthesis of psychological theory based on the unity of consciousness and behaviour was that it retained an element of dualism. This is undoubtedly true. But the dualism of consciousness and behaviour (and ultimately of psychic and material) contained in Rubinštejn's earlier works is a far cry

from the dualism of, e.g., Descartes, or of the theory of psycho-physical parallelism. Rubinštejn nowhere even hints at a duality of substances nor are any of his statements open to such an interpretation. The dualism in Rubinštejn's earlier works is fundamentally the recognition of the irreducibility of the psychic, or of categorial pluralism, and merely echoes the ideas of the 'Classics'; a duality of material and psychic is explicit in the Leninist theory of knowledge.

However, the error of the earlier synthesis seems to have been, in Rubinštejn's own view, that it implied a duality of psychic and material beyond the limits of theory of knowledge. To apply a distinction widely used in Soviet psychological literature after 1950, Rubinštejn made the psychic ideal on both the epistemological and ontological levels.[91] In other words, the principle of psycho-physical unity was not compatible with the principle of materialistic monism.

In the works written after the Pavlov Conference, Rubinštejn attempts to correct his earlier view by means of a distinction between the ontological and epistemological or 'gnoseological' aspects of the psychic. Considered from the point of view of 'gnoseology' or theory of knowledge, the psychic appears as an ideal reflection of the material world, whereas from the point of view of ontology it appears as higher nervous activity. This formula is intended to save, on the one hand, the irreducible nature of the psychic and the dualistic theory of knowledge. On the other, it is intended to save the principle of materialistic monism.

However, Rubinštejn is immediately faced with two further problems: (1) to explain how psychic phenomena can appear under two apparently opposing aspects; (2) to explain how the recognition of the ideal nature of the psychic on the level of theory of knowledge is compatible with the material unity of the world.

1. The Aspects of the Psychic

Rubinštejn attempts to explain the different aspects of the psychic in terms of the different relationships which join the psychic to the material world. The psychic appears under different aspects according as it is incorporated into different systems of relations. In *Being and Consciousness* he writes:

> Psychic phenomena, like all other phenomena, are joined to all the phenomena of life and to all sides and properties of the material world. In different re-

lationships they appear in different qualities, now as reflex higher nervous activity, now as the ideal in opposition to the material, now as the subjective in opposition to the objective.[92]

Thus the different connections which join the psychic to the other phenomena of the material world determine the different qualities under which the psychic appears. In the first place the psychic is connected to the brain; it is a function of the brain and as such appears as higher nervous activity. The psychic is also connected to the outer world as its reflection; under this aspect it appears as ideal and as subjective: as an ideal image standing in opposition to the material world and as subjective in opposition to objective reality.

The new concept of the psychic which Rubinštejn elaborated in his earlier works was intended to express the inseparable connection of the psychic with the material world. Rubinštejn later felt that the principle of the unity of consciousness and behaviour, on which this new concept was based, had only succeeded in relating psychic and material externally, and almost on a basis of equality. Consequently, the primacy of the material in relation to the psychic had not been sufficiently expressed. In the *Fundamentals* he insists that the psychic is *known* through its connection with the material world; in his later works he insists that the psychic is *constituted* by these connections.

The relation of the psychic to the material world is fundamentally twofold: to the inner matter of the brain (this relation constitutes the psychic in the quality of higher nervous activity) and to the outer matter of the external world in which relationship the psychic takes on the quality of ideal and subjective. The first quality Rubinštejn calls the *ontological* aspect of the psychic; the second he calls the *gnoseological* or theory-of-knowledge aspect.[93]

A similar distinction between the ontological and gnoseological aspects of the psychic was proposed by F. F. Kal'cin[94] and N. V. Medvedev.[95] F.N. Georgiev[96] objected to the distinction as introduced by Kal'cin and Medvedev on the grounds that the essence of the psychic does not depend on the point of view of the observer. The distinction as proposed by Rubinštejn is not vulnerable to Georgiev's objection. For Rubinštejn, the distinction of aspects does not depend on the point of view of the observer.[97] The different aspects of the psychic are, for Rubinštejn, objectively different qualities which the psychic possesses independently of

the observer, but dependent on the system of objective relations into which the psychic is incorporated.

In order to explain how the psychic can take on different qualities in different systems of relations, Rubinštejn has recourse to an ontological theory. He states in effect that the principle 'new relations new qualities' applies not only to psychic phenomena but to all phenomena. Though this principle would appear to be of capital importance for Rubinštejn's new synthesis he gives it surprisingly little prominence in his works. In *Being and Consciousness* the principle is first explicitly formulated on p. 259 although it is implicit in the very first pages of the book. In *Principles* he gives it greater emphasis but in neither place does he attempt to explain it in any detail. In *Being and Consciousness* he writes:

> Every phenomenon, when it is included in a new connection, appears in a new quality which is fixed in a new conceptual characteristic.[98]

The text in *Principles* is more explicit:

> The key to solving the problem [of the aspects of the psychic] is to be found in the fact – to use an expression of Hegel on which Lenin placed great importance – that one and the same thing is both itself and something else, according as it appears in different systems of connections and relationships. Concretely speaking, then, psychic phenomena – like all other phenomena – appear in different qualities in different systems of connections and relationships which are essential for them.[99]

Rubinštejn gives no reference to any text of either Hegel or Lenin but he is obviously referring to a text in the *Philosophical Notebooks*, in which Lenin says:

> Every concrete thing, every concrete something, stands in multifarious and often contradictory relations to everything else: ergo it is itself and some other.[100]

The idea is authentically Hegelian and frequently recurs in Lenin's *Philosophical Notebooks*. Lenin, following Hegel, proposes a general theory of constitutive relationism according to which every phenomenon or thing is determined and constituted by its relation to all the other phenomena of reality. Rubinštejn here has recourse to this theory to explain how the psychic can appear in different qualities.

Rubinštejn's terminology is interesting. In both of the texts quoted above he speaks of the psychic as having different "qualities". Soviet

philosophy, following Hegel, usually distinguishes between 'quality' (*kačestvo*) and 'property' (*svojstvo*).[101] Quality usually signifies the inner stable determinateness of an object, whereas property is used to signify this determinateness in terms of its relation to something else. Thus, e.g., the quality of iron is determined by its inner structure, whereas the property of hardness belongs to iron in relation to wood but not in relation to diamond; in relation to diamond it is soft.

In stating that the psychic takes on different qualities in different systems of relationship, Rubinštejn seems to suggest that the psychic has a plurality of structures. It cannot be a question of successive intrinsic structures, now higher nervous activity when related to the brain, and ideal when related to external reality as its reflection for the psychic is simultaneously higher nervous activity and ideal reflection.[102] Thus, he seems to imply that psychic phenomena have a plurality of intrinsic structures.

Rubinštejn, however, modifies his statement when he continues:

> That means other qualities, properties or aspects come to the fore and are determining.[103]

Rubinštejn, apparently, does not intend to make a clear distinction between quality (*kačestvo*), property (*svojstvo*) and aspect (*aspekt*), but rather seems to treat them as interchangeable. Hence one would not be justified in placing too much importance on his use of the term 'quality'.

Summarizing Rubinštejn's theory of the aspects of the psychic we can conclude:

(1) The psychic has at least two characteristics or properties: it is higher nervous activity and an ideal reflection of the material world.

(2) These are objective characteristics; that is to say they belong to the psychic in virtue of the different *objective* systems of relationship into which it is incorporated and do not merely depend on the point of view of the observer.

(3) These characteristics or properties *constitute* the psychic; they are not merely accidental determinations.

(4) The psychic is *both* an ideal reflection and higher nervous activity. These are inseparable and simultaneous characteristics. It is, however, possible to abstract from one or other system of relations and consider the psychic under one aspect alone; but it must be remembered that *in re*

these aspects are not separable. Thus, from the point of view of theory of knowledge the ideal nature of the psychic comes to the fore and is determining. Considered, on the other hand, as a function of the brain, the ideal aspect drops to the background and the predominant aspect is that of neural activity.

2. Ideal Reflection and Materialistic Monism

The second problem raised by Rubinštejn's theory of the qualitatively different aspects of the psychic is to show how the ideal nature of the psychic on the level of theory of knowledge is compatible with the material unity of the world. The distinction between the ontological and epistemological properties of the psychic merely restricts the ideal character of the psychic to the level of theory of knowledge but does not eliminate it. The ideal property of the psychic is a real property, and Rubinštejn is therefore obliged to show how the recognition of the ideal character of the psychic even when so restricted, does not constitute an exception to the material unity of reality. He attempts to do this in a number of different ways.

a. Cognition as Relation of Subject and Object

In the first place Rubinštejn insists that the fundamental epistemological or cognitive relation is not between the *image* and the *thing* but between *subject* and *object*.[104] That is not to say that the question of the relation between image and thing has no place in psychology or rather in theory of knowledge, but merely that it is an aspect of a more fundamental relationship, namely that existing between the knower and the known.[105] Since knower and known are both material, the ideal nature of the psychic does not place it outside the limits of the material world. The psychic arises as the result of the interaction of two material entities and, though ideal, remains within the limits of the material world.

b. The Psychic Obeys All the Laws of Matter

The second thesis which Rubinštejn invokes to explain how the ideal character of the psychic does not contradict the material unity of the world is the principle according to which the general laws which apply to the lower levels of reality retain their validity even on the higher levels. This is evidently a corollary to the theory of the aspects of the psychic.

As pointed out in Chapter I, Engels conceives of reality as a hierarchy of forms of the motion of matter. Rubinštejn takes over this idea and further insists that the laws of the lower forms of material motion are valid for all the higher levels.[106] Thus on any given level the motion of matter is governed by the more general laws of all the inferior levels of reality. This would amount to reductionism and to the denial of categorial pluralism had Rubinštejn not insisted at the same time that on each level of reality new specific laws are also operative.[107] For example, the advances made in biochemistry have added to our knowledge of the digestive process, which is a physiological process. But the explanation of the digestive process in terms of the laws of biochemistry does not mean that we have reduced a physiological process to a merely biochemical process or to a series of such processes. Digestion, though it obeys the laws of biochemistry remains a physiological process because, while it appears as the effect of biochemical laws, new specifically physiological laws are also operative.[108]

As applied to psychology this principle states that psychic phenomena obey all the laws of neuro-dynamics, and by implication all the more general laws of the lower levels of reality.[109] Thus, though psychic phenomena are governed by specific psychological laws they are still linked to the rest of reality and obey all the laws of the motion of matter.

c. Reflection as a General Property of Matter

The property of 'ideal' belongs to the psychic as a reflection of the material world. In order to show that the ideal nature of the psychic is not incompatible with the material unity of reality Rubinštejn has recourse to the Leninist thesis that reflection is a general property of all matter.[110] Stated briefly this thesis declares that the property of reflection, which is characteristic of psychic phenomena occurs in a similar, though qualitatively different way on all levels of reality even on the level of inorganic matter. As a general property of matter, reflection implies the ability of every material thing to reflect the nature of the objects which act upon it.[111]

As formulated by Lenin the thesis of reflection affirms two things: (1) that knowledge or consciousness is a reflection of material reality; (2) that the property of reflection is possessed by all matter. Lenin calls this general property of reflection "a faculty akin to sensation".[112]

Since 1950, Lenin's original theory of reflection has been greatly elaborated by Soviet psychologists and philosophers.[113] The Pavlovization of psychology and the insistence on the reflex character (in the sense of higher nervous activity) of thought demanded a re-examination of Lenin's theory of reflection. The reflection of which Lenin speaks is "epistemological" reflection (*otraženie*), i.e. reflection in the sense of mirroring. The theory of reflexes (*reflektornaja teorija*) put forward by Pavlov is "physiological" reflection, the (conditioned or unconditioned) response of the organism to external stimuli. The central idea in Lenin's theory of reflection is that of mirroring (*otraženie*); for Pavlov it is rather a question of reaction (*reaktivnost'*) or interaction (*vzaimodejstvie*), the interaction of the organism with its environment. An attempt has therefore been made by Soviet writers to reconcile these two species of reflection by re-interpreting Lenin's original theory in terms of reaction.

Rubinštejn explains the general property of reflection in terms of the interconnection of the phenomena of the material world. All the phenomena of the material world are interconnected and interact. This interaction is the foundation of the "faculty akin to sensation" which Lenin affirms in all material things.[114] Each material thing retains the imprint of the things which have acted on it and so in a more or less imperfect way reflects them. For example, if *A* acts on *B* the action of *A* brings about a change in *B* and *A* is in consequence reflected in *B*.

In common with other Soviet philosophers, Rubinštejn adds a further element to the Leninist theory of reflection, namely the element of refraction[115]: not only does the action of *A* (in the example given above) change the nature of *B* but the inner characteristics of *B* change or refract the action of *A*. The inner characteristics of the object acted upon behave like a prism through which the action of the agent is refracted (*prelomjaetsja*). Hence the result of the action of *A* depends as much on the nature of *B* as on the nature of *A*. Thus, the theory of reflection as a general property of matter contains the element of *refraction* as well as that of *reflection*.

In this way the action of *A* on *B* not only causes *B* to reflect *A but also A to reflect B*. Since the action of *A* is refracted or changed by the inner characteristics of *B*, *A*'s action reflects the inner nature of *B*:

> ... the inner nature of a phenomenon is the prism through which one object or phenomenon is reflected in the others.[116]

In so far as the impulse of one thing on another is refracted by the latter's properties (*svojstva*) these things reflect one another.[117]

So formulated the theory of reflection expresses only the most general characteristics of reflection as valid for all matter. But reflection is realized in as many forms as there are phenomena which interact.[118] On different levels of material reality the property of reflection is realized in specifically different ways, and as one ascends the evolutionary scale from inorganic to organic matter, from simple organisms to man, the inner conditions become more complicated and more significant in relation to the outer impulses. Consequently the phenomena of reflection become more sophisticated and more perfect.

In inorganic matter reflection takes the form of an external (physical or chemical) reaction (*otvetnaga vnešnaja reakcija*). This external reaction coincides with an inner change of state in the object acted upon.[119]

On the level of living matter (*živaja priroda*) reflection takes on a new specific form. In living things reflection takes on the form of irritability (*razdražimost'*), which Rubinštejn defines as the ability to respond to outer impulses by a state of inner excitation (*vnutrennoe vozbuždenie*).[120] In living organisms there is a distinction between the inner change of state and the outer reaction. There is, in other words, a partial interiorization of the reaction which is represented by the change of state (inner excitation). This inner change of state becomes part of the inner conditions of the living thing through which successive outer impulses must pass and by which they are refracted. Therefore, in living things the effect of an outer impulse not only depends on the constant nature of the object acted upon but also on its changing inner states. Consequently the same stimulus may produce different effects in different individuals of the same species and even in the same individual at different times, if the inner conditions are different.

On the level of the most highly organized matter, the cerebral cortex, reflection takes the form of reflex activity (*reflektornaja dejatel'nost'*) or sensibility (*čuvstvitel'nost'*).[121] It is on this level that psychic phenomena arise and here the distinction between outer reaction and inner change is most marked. The inner change of state not only consists in a biological or physiological readjustment but, more significantly, also takes the form of an ideal image of the object acting on it. In man reflection takes the form of both neural activity and ideal reflection.

Summarizing, we can say that reflection as a general property of matter means:

(1) That reflection, in the sense of 'mirroring', is found on all levels of material reality. On the level of inorganic matter it is identified with the outer reaction of the object to the agent. As one ascends the evolutionary scale there is an increasing differentiation between the outer reaction and the inner change of state so that the mirroring becomes more perfect. On the level of man this mirroring takes the form of an ideal image.

(2) Reflection in the sense of reaction is a characteristic of psychic phenomena; psychic phenomena follow the schema of the reflex.[122] It begins with an impulse from the outer world. Psychic activity is capable of mirroring the external world precisely because it arises as a result of the impulse (*vozdejstvie*) of the object it reflects.[123] The general theory of the reflex nature of psychic activity is the link between the theses that the psychic is a reflection of objective reality and that it is cerebral activity.

The thesis that reflection is a general property of matter finds its expression in what Rubinštejn calls the dialectical-materialist principle of determinism.[124] This principle is introduced by Rubinštejn as a new, specifically Marxist-Leninist principle, which he contrasts with the so-called mechanist principle. The mechanist principle of determinism, which he claims was the theoretical foundation of 17th- and 18th-century science, considers the cause as an outer impulse (*tolčok*) which immediately and totally determines the effect it produces.[125] The fundamental weakness of this theory was that it took no account of the inner characteristics of the object acted upon.[126] Furthermore, since it was unable to deduce fully the total effect from the action of the extrinsic cause, some part of the total effect was left unexplained and an element of indeterminism was introduced.[127]

The dialectical-materialist principle of determinism takes into account the mediating effect of the inner characteristics of the object acted upon; the extrinsic cause always acts through these inner conditions.[128] The effect of the agent is modified, refracted by the inner characteristics of the thing on which it acts so that the end effect is to be explained by the combined action of the agent and the thing acted upon. Thus where the mechanist principle declares that the effect of agent A on patient B is entirely determined by the nature of A, the dialectical-materialist principle

states that the nature of *B* must be taken into account so that the total effect is determined by both *A* and *B*.

As formulated by Rubinštejn, the so-called dialectical-materialist principle of determinism differs little (if at all) from the venerable scholastic thesis *quidquid recipitur, ad modum recipientis recipitur*. Rubinštejn, however, extolls this principle as one of the central principles of Soviet psychology (and of Soviet science generally) and the key to the understanding of psychic phenomena in all its forms.[129]

The dialectical principle of determinism is founded on the Marxist-Leninist thesis of the interconnection and interaction of phenomena. It is the most general expression of the property of reflection possessed by all matter.[130] It is, as such, a general philosophical principle valid for all reality. Each special science must determine how this general principle is realized in its own field.

For psychology the principle of determinism finds its expression in the thesis on the reflex character of psychic phenomena.[131] The theory of reflection (*teorija otraženija*) is the application of the general principle to psychic phenomena considered as cognitive activity; the reflex theory (*reflektornaja teorija*) is the result of its application to the psychic considered as cerebral activity.[132]

In virtue of the thesis that reflection is a general property of matter, the psychic no longer appears as isolated from the material world or as 'alien' (*čužerodna*) to it.[133] Rubinštejn insists, with Lenin, that the general property of reflection does not mean that all matter is conscious or has the property of sensation but that the psychic has analogical counterparts in the rest of reality.[134] The material world has traits which are, in some faint way, similar to consciousness and which provide the premises (*predposylki*) for its natural evolution. The psychic is therefore one link in the chain of properties of the material world. It is a specific form of the motion of matter on the highest level of its evolution and one of the forms of the material world.[135]

3. Conclusion: the Nature of the Psychic

The reconstruction of psychology on the basis of Marxism-Leninism is intended by Rubinštejn to provide that science with a firm philosophical foundation. As pointed out in the introduction, Soviet psychologists lay great stress on purely theoretical problems. Psychology can never be a

purely experimental science; it can never abstract from strictly philosophical problems:

> One of the most important conditions for the successful development of psychology is a profound and penetrating analysis of theoretical questions.[136]

For Rubinštejn the basic theoretical or philosophical problems for psychology are the problem of the nature of the psychic and of its relationship to the material world.[137] The first fruits of the reconstruction of psychology must be a definite solution to these two problems. This is, of course, by no means a new formulation of the basic philosophical problems of psychology. The problem of the nature of the psychic and of its relation to the material world are the classical problems of philosophical psychology.

However, these problems have a special significance for Soviet psychologists in the light of the so-called basic question of philosophy: the relation of thought to being.

Though Rubinštejn speaks of the problem of the nature of the psychic and of its relation to the material world as two problems, in practice there is, for Rubinštejn, only one problem: that of the relation of the psychic to the material world; what Rubinštejn calls the psycho-physical problem.[138]

Traditionally, the solution to the psycho-physical problem has depended on the solution to the prior problem of the nature of the psychic. If it is decided that the psychic is material then the relation of the psychic to the material world is one of identity; if on the other hand, it is decided that the psychic is non-material then its relation to the material world is expressed in terms of the theories, say, of parallelism, interaction, etc.

Rubinštejn treats the problem somewhat differently. For him, the problem of the relation of the psychic to the material world is the prior problem. This is surprising, for as Rubinštejn himself points out, even to pose the problem of the relation of the psychic to the material world presupposes the "qualitative peculiarity" (*kačestvennoe svoebrazie*) of the psychic.[139] Logically the analysis of this 'peculiarity' should precede the consideration of the psychophysical problem. There is, however, a surprising absence of any serious discussion of this "qualitative peculiarity". The nearest Rubinštejn comes to such a discussion is on the first pages of the *Fundamentals*, where he writes:

The group of specific phenomena which psychology investigates can be clearly and exactly distinguished from other phenomena: they are our perceptions, thoughts, feelings, our strivings, intentions and wishes etc., that is to say, all that goes to make up the inner content of our interior life and which is immediately given to us as experience.[140]

This in itself is a surprising definition of the object of psychology. It amounts to defining it as the content of inner experience, a definition to which any introspectionist would subscribe. It is, however, clear from the context that Rubinštejn intends it as a description rather than a strict definition, for he immediately goes on to say that the psychic has two essential characteristics: it belongs to an individual or subject and is related to an object. The psychic is ultimately defined in terms of this dual relationship.

Later in the same work, when he comes to consider more closely the object of psychology he declares that the task of psychology is to study the psychic by discovering those connections by which it is objectively determined:

Psychological knowledge is knowledge of the psychic through the discovery of its essential connections and mediations.[141]

In contrast to traditional psychology which investigates the structure and function of consciousness as something immanent, Soviet psychology must begin with the relation of consciousness to objective reality. The nature of the psychic is known through its connections with objective reality.

This idea is more clearly expressed in Rubinštejn's later works. In *Being and Consciousness* he rejects the possibility of beginning the investigation of psychic phenomena with an "abstract general" concept of the psychic: the psychic must be studied concretely, i.e., "in all its essential connections and mediations".[142]

As already pointed out these connections and mediations *constitute* the psychic. The question 'What is the psychic?' is answered by determining what its relation to the material world is. For Rubinštejn the relation of the psychic to the material world is twofold: it is related to the 'outer' matter of external reality and to the 'inner' matter of the brain (and nervous system). When the relation of the psychic to each of these has been determined, psychology will be able to answer the question, 'What is the psychic?'

REFERENCES

[1] Cf. Chapter II, p. 40.
[2] Rubinštejn, 'K. Marks', p. 4.
[3] Rubinštejn, 'Problema dejatel'nosti i soznanija v sisteme sovetskoj psixologii' [The Problem of Activity and Consciousness in the System of Soviet Psychology], *UZ MGU* – Psixologija, dviženie i dejatel'nost', vyp. 90, 1945, p. 9 (henceforward: Rubinštejn, 'Dejatel'nost' i soznanie').
[4] Rubinštejn, 'Perestrojka', p. 197.
[5] "Krizis, čerez kotorij prošla psixologija, éto – kak i krizis fiziki, o kotorom pisal Lenin v *Materializme i empiriokritisizme* kak i krizis drugix nauk – o matematiki do literaturovenija, étot byl krizis filosofskix osnov nauki." (The crisis through which psychology passed, like the crisis in physics of which Lenin wrote in *Materialism and Empiriocriticism*, and like the crises in the other sciences – from mathematics to literature – was a crisis of the philosophical foundations of science.) Rubinštejn, 'K. Marks', p. 6.
[6] Cf. *ibid.*, p. 4ff.
[7] Cf. Rubinštejn, 'K. Marks', p. 6. Rubinštejn insists that the crisis was not caused by a "paralysis of scientific investigation" but is a "general crisis of the methodological foundations of the science": "No vse etom obščij krizis metodologičeskix osnov nauki, a ne parallič naučnogo issledovanija v oblasti psixologii, kak nauki." Rubinštejn, 'Dejatel'nost' i soznanie', p. 7.
[8] Cf. Rubinštejn, 'K. Marks', p. 6; 'Dejatel'nost' i soznanie', p. 7; *Osnovy*, pp. 63ff.
[9] Cf. Rubinštejn, 'K. Marks', p. 4.
[10] Cf. Rubinštejn' 'Dejatel'nost' i soznanie', p. 7.
[11] Descartes, *Principia Philosophiae*, 1, 9. *Oeuvres*, Vol. VIII, p. 7.
[12] Rubinštejn, *Osnovy*, p. 63; 'Dejatel'nost' i soznanie', p. 4.
[13] Introspection as a method can be broadly defined as the process of observing the operations of one's own mind with a view to determining its content and laws. Rubinštejn is correct in tracing the method back to Descartes and Locke for whom it was the chief method of psychology. It was also the primary method employed by the founders of the new experimental psychology like Wilhelm Wundt, Oswald Külpe, E. B. Titchner, etc. It should be noted that Rubinštejn does not reject introspection as a method but only the dualism which considers it as the only method for investigating mind. It is a valid method for the investigation of mind provided it is objectively verified (cf. *Osnovy*, pp. 31–34). Cf. E. G. Boring, 'A History of Introspection', *Psychological Bulletin* **50** (1953); Robert S. Woodworth, *Contemporary Schools of Psychology*, New York 1948; Gardner Murphy, *Historical Introduction to Modern Psychology*, London 1949.
[14] Cf. Rubinštejn, 'K. Marks', p. 4; *Osnovy*, p. 50.
[15] Rubinštejn, *Principy*, p. 144.
[16] "V svoej neposredstvennosti ona zamykaetsja vo vnutrennij mir i prebraščaetsja v sugubo ličnostnoe dostojanie. Každomu sub"ektu dany tol'ko javlenija ego soznanija i javlenija ego soznanija dany tol'ko emu." (In its immediacy it is locked away from the outer world and turned into a purely personal possession. To each subject only the phenomena of his consciousness are given and the phenomena of his own consciousness are given to him alone.) Rubinštejn, 'K. Marks', p 4. Cf. also *Osnovy*, p. 11.
[17] *Ibid.*
[18] "No, vmeste s tem – i v étom koren' voprosa – nevozmožnym stanovitsja ob"ektivnoe

poznanie psixiki i so storony pereživajuščego ee sub"ekta." (At the same time – and this is the heart of the question – objective knowledge of the psychic becomes impossible even for the subject which experiences it.) Rubinštejn, 'K. Marks', p. 4.

[19] *Ibid.*

[20] *Ibid.* Cf. also *Osnovy*, pp. 58ff.

[21] Rubinštejn, 'K. Marks', pp. 4–5.

[22] "Idealističeskaja psixologija priznala real'nye psixičeskie processy liš' sub"ektivnymi soderžanijami samonabljudenija, a bixevioristy i refleksologi nekritičeski polnost'ju prinjali idealističeskuju koncepciju svoix protivnikov. Tol'ko v silu étogo oni ne mogli najti nikakogo inogo puti dlja realizacii ob"ektivnoj naučnosti psixologičeskogo poznanija, kak otkaz o poznanija psixiki. Introspekcionisty, zamykaja psixiku vo vnutrennem mire soznanija, otorvali psixiky ot dejatel'nosti; bixevioristy prinjali kak nepreložnuju istinu étot otryv drug ot druga soznanija i dejatel'nosti, vnutrennogo i vnešnego. Tol'ko na étoj osnove možno bylo opredelit' svoju zadaču tak, kak éto sdelali predstaviteli povedenčeskoj psixologii: vmesto izučenija soznanija, otorvannogo ot povedenija, postavit' sebe zadačej izučenija povedenija otorvannogo otsoznanija." (Idealist psychology considered real psychic processes as merely the subjective content of introspection, while the Behaviourists and Reflexologists took over completely the idealist conception of their opponents. Hence they could find no other way to the realization of objective, scientific, psychological knowledge than the rejection of knowledge of the psychic. The introspectionists, by locking the psychic away in the inner world of consciousness, separated the psychic from activity; the Behaviourists accepted as an unassailable fact this separation of consciousness and activity, of the inner and the outer. Only on such a basis were the behaviourists able to so define the task of psychology: in place of the study of consciousness separated from behaviour, they set themselves the task of studying behaviour separated from consciousness.) Rubinštejn, *Osnovy*, p. 63.

[23] Rubinštejn, *Bytie i soznanie*, pp. 15–30; *Principy*, pp. 256–330.

[24] Rubinštejn, 'Filosofija i psixologija' [Philosophy and Psychology], *VF*, 1957, 1, 114–127.

[25] Rubinštejn, 'K. Marks', p. 5.

[26] Cf. reference 22.

[27] Rubinštejn, 'K. Marks', p. 6.

[28] *Ibid.*

[29] "On vedet k dejstvennoj soznatel'nost' i soznatel'noj dejstvennost'. Svoe zaveršenyi on dolžen polučit' v novoj koncepcii soznanija, stol' že principal'noj otličnoj ot introspektivnoj, ot dekartovskoj, kak dekartovskaja byla otlična ot aristotelevskovoj." (It leads to an active consciousness and to a conscious activeness. It must attain completion in a new conception of consciousness as fundamentally distinct from the introspectionist or Cartesian, as the Cartesian was distinct from the Aristotelian.) Rubinštejn, 'Dejatel'nost' i soznanie', p. 9.

[30] "Pered sovetskoj psixologiej vstala zadača postroenija sistemy psixologii na novoj, marksistsko-leninskoj, filosofskoj osnove. ... Nado bylo ... sozdat' na osnove marksistsko-leninskoj dialektiki novye ustanovki i proložit' novye puti dlja razrešenija osnovnyx teoretičeskix problem psixologičeskoj mysli." Rubinštejn, *Osnovy*, p. 81.

[31] "Ob"edinennaja naučnaja sessija Akedemii nauk SSSR i Akademii medicinskix nauk ... podčerknula, čto issledovanija I. P. Pavlova sozdali pročnyj estestvenno-naučnyj fundament dlja psixologii, i postavila pered psixologami vopros o neobxodimosti perestrojki psixologii na osnove učenija I. P. Pavlova." (The combined session

of the Academy of Sciences of the USSR and of the Academy of Medical Sciences underlined the fact that the investigations of I. P. Pavlov have created a firm natural-science foundation for psychology, and placed before psychologists the question of the necessity of reconstructing psychology on the basis of the teaching of I. P. Pavlov.) Rubinštejn, 'Perestrojka', p. 198.

[32] *Ibid.*, p. 197.

[33] *Ibid.*, p. 198.

[34] In the articles written between 1950 and 1953 (death of Stalin) Rubinštejn adds another element to the reconstruction of psychology, namely, Stalin's works on linguistics. Cf., e.g., *ibid.*, p. 198.

[35] "Osnovnoj porok staroj idealističeskoj psixologii soznanija, isxodivšej iz idealističeskoj filosofii, zaključalsja v tom, čto predstaviteli ee byli – pol'zujac' krasočnym vyraženiem I. M. Sečenova – 'obosobiteljami psixičeskogo'." (The fundamental defect of the old idealist psychology of consciousness, which comes from idealist philosophy consists in the fact that its representatives were – to use an apt expression of I. M. Sečenov – 'isolators of the psychic'.) Rubinštejn, 'Problema soznanija v svete dialektičeskogo materializma', *Izvestija AN SSSR* – serija istorii i filosofii **3** (1945), 148.

[36] Rubinštejn, *Osnovy*, p. 85.

[37] *Ibid.*, pp. 14–17.

[38] Rubinštejn, 'K. Marks', p. 6.

[39] Rubinštejn, *Osnovy*, p. 14.

[40] "Soznatel'noe dejstvie otličaetsja ot ne soznatel'noe v samom svoem ob"ektivnom obnaruženii: ego struktura inaja i inoe ego otnošenie k situacii, v kotoroj ono soveršaetsja; ono inače protekaet." (Conscious activity differs from nonconscious in its manifestation: it has a different structure and its relation to the situation in which it is accomplished is different; it proceeds differently.) Rubinštejn, *Osnovy*, p. 15.

[41] *Ibid.*

[42] Rubinštejn, 'K. Marks', p. 6. Rubinštejn quotes the well-known text from the *Economic and Philosophical Manuscripts of 1844*: "Man sieht wie die Geschichte der *Industrie* und das gewordene *gegenständliche* Dasein der Industrie das aufgeschlagene Buch der *menschlichen Wesenskräfte*, die sinnlich vorliegende menschliche *Psychologie* ist." Karl Marx, *Kleine ökonomische Schriften*, *MW*, Bd. 1, p. 602.

[43] "Soznanie – éto specifičeskaja forma otraženija ob"ektivnaja dejstvitel'nosti suščestvujuščej vne i nezavisimo ot soznanija. ... V svoem sobstvennom vnutrennem soderžanii ono opredeljaetsja posredstvom svoego otnošenija k ob"ektivnomu miru." Rubinštejn, *Osnovy*, p. 13.

[44] "Prinadležnost' individu ... sub"ektu – pervaja xarakternaja osobennost' vsego psixičeskogo. Psixičeskie javlenija vystupajut poétomy kak processy i kak svojstva konkretnyx individov; na nix obyčno ležit pečat čego-to osobenno blizkogo sub"ektu, iz ispytyvajuščemu." Rubinštejn, *Osnovy*, p. 5.

[45] "Esli prinadležost' individu, sub"ektu javljaetcja pervym suščestvennym priznakom psixičeskogo, to otnošenie ego k nezavisimomu ot psixiku, ot soznanija ob"ektu – drugaja ne menee suščestvennaja čerta psixičeskogo." Rubinštejn, *Osnovy*, p. 5.

[46] *Ibid.* Cf. Marx, Engels, *Deutsche Ideologie*, *MEW*, Bd. 3, p. 26.

[47] "Vnutrennjaja priroda ego vyjavljaetsja v ego otnošenii k vnešnemy." Rubinštejn, *Osnovy*, p. 8.

[48] "Soznanie konkretnogo real'nogo individa – éto edinstvo pereživanija i znanija." *Ibid.*

[49] Rubinštejn, 'K. Marks', p. 7.

[50] "In dem er ... auf die Natur ausser ihm wirkt und sie verändert, verändert er zugleich seine eigene Natur." Marx, *Das Kapital*, *MW*, Bd. 4, p. 177.
[51] Cf. reference 53.
[52] Marx, *Kapital*, pp. 177–178.
[53] "Erst durch den gegenständlich entfalteten Reichtum des menschlichen Wesens wird der Reichtum der subjectiven *menschlichen* Sinnlichkeit, wird ein musikalisches Ohr, ein Auge für Schönheit der Form, kurz, werden erst menschlicher Genüsse fähige *Sinne*, Sinne, welche als *menschliche* Wesenskräfte sich bestätigen, teils erst ausgebildet, teils erst erzeugt." Marx, *Kleine ökonomische Schriften*, *MW*, Bd. 1, p. 601.
[54] Rubinštejn, *Osnovy*, pp. 87–172.
[55] *Ibid.*, pp. 87ff.
[56] *Ibid.*, p. 90.
[57] *Ibid.*
[58] *Ibid.*, pp. 91ff.
[59] *Ibid.*, p. 93.
[60] "Dlja razvitija psixiki sobstvennaja istorija suščestvenno svjazana s razvitiem form povedenija, kotorye regulirujutsja čerez posredstvo organov čuvstv i nervnoj sistemy." (The development of the psychic as such is essentially connected with the development of forms of behaviour which are regulated by the sense organs and the nervous system.) Rubinštejn, *Osnovy*, p. 115.
[61] *Ibid.*, pp. 94–95.
[62] *Ibid.*, p. 115.
[63] *Ibid.*, p. 130.
[64] *Ibid.*
[65] *Ibid.*, pp. 131–132. Rubinštejn's account is a paraphrase of Engels' 'description' in the *Dialectics of Nature*. Cf. F. Engels, *Dialektik der Natur*, *MEW*, Bd. 20, pp. 444–455.
[66] *Ibid.*
[67] *Ibid.*, pp. 447–448.
[68] It could be objected that animals also make changes in their environment; e.g. the bird builds a nest, the bee makes a hive. Rubinštejn does not consider this problem but it is probable that he would answer with Engels: "... auch Tiere produzieren, aber ihre produktive Einwirkung auf die umgebende Natur ist dieser gegenüber gleich Null. Nur der Mensch hat es fertiggebracht, der Natur seinen Stempel aufzudrücken, ..." Engels, *Dialektik der Natur*, p. 322.
[69] *Ibid.*, pp. 148ff.
[70] "Razdelenie truda s neobxodimostiju privodit k tomu, čto dejatel'nost' čeloveka napravljaetsja neposredstvenno na udovletvorenie na sobstvennyx ličnyx ego potrebnostej, a obščestvennyx; dlja togo čtoby byli udovletvoreny ego potrebnosti, čelovek dolžen sdelat' prjamoj cel'ju svoix dejstvij udovletvorenie obščestvennyx potrebnostej." (The division of labour necessarily leads to the result that man's activity is not immediately directed towards the satisfaction of his personal needs, but to those of society; In order to assure the satisfaction of his personal needs man must make the satisfaction of social needs the immediate goal of his activity.) Rubinštejn, *Osnovy*, p. 149.
[71] *Ibid.*, p. 154.
[72] *Ibid.*
[73] "I dlja psixičeskogo razvitija čeloveka suščestvenno, čto on roždaetsja s čelovečeskim mozgom, čto, pojavljajas' na svet, on prinosit s soboj takoe, polučennoe ot predkov, nasledstvo. Eti nasledstvennye dannye otkryvajut emu širokie vozmožnosti čelovečeskogo razvitija." (It is also essential for the psychic development of man that

he be born with a human brain, that he come into the world endowed with that legacy from his ancestors. These inherited gifts open to him the wide possibilities for human development.) Rubinštejn, *Osnovy*, p. 154.

[74] Cf. reference 76.

[75] *Ibid.*

[76] "S razvitiem u čeloveka trudovoj dejatel'nosti, kotoraja materializuetsja v opredelennyx produktax, soznanie čeloveka, formirujuščeesja i razvivajuščeesja v processe étoj dejatel'nosti, oposreduetsja predmetnym bytiem istoričeski sozdavaemoj material'noj i duxovnoj kul'tury. Buduči 'produktom mozga', soznanie stanovitsja *istoričeskim* produktom." (With the development of work-activity which is materialized in definite products, man's consciousness, which is formed and developed in the process of that activity, is determined by the objective being of material and spiritual culture which has arisen in the course of history.) Rubinštejn, *Osnovy*, p. 21.

[77] "Moe soznanie v svoej vnutrennej suščnosti oposredstvenno ob"ektivnymi svjazjami, kotorye ustanavlivajutsja v obščestvennoj praktiki i v kotorye ja vključajus' vxožu každym aktom svoej dejatel'nosti, praktičeskoj i teoretičeskoj. Každyj akt moej dejatel'nosti i ja sam v nem i čerez nego tysjačami nitej vpleten, mnogoobraznymi svjažami vključen v ob"ektivnye obrazovanija istoričeski složivšejsja kul'tury, i moe soznanie naskvoz' oposredstvovano imi." Rubinštejn, 'K. Marks', p. 8.

[78] *Naučnaja sessija*, p. 311.

[79] Rubinštejn, 'Dejatel'nost' i soznanie', p. 13.

[80] Rubinštejn, *Osnovy*, pp. 17–21.

[81] *Ibid.*, p. 19.

[82] Rubinštejn, 'Perestrojka', p. 201.

[83] Rubinštejn, *Osnovy*, p. 149.

[84] Rubinštejn, 'Perestrojka', p. 201.

[85] "Monizm – pišet tovariščStalin – isxodit iz odnogo principa – priroda ili bytija imejuščego material'nuju i ideal'nuju formu, togda kak idealizm, isxodit iz dvux principov – material'nogo i ideal'nogo, kotorye, soglasno dualizmu otricajut drug druga." (Monism – writes Comrade Stalin – starts with one principle – nature or being which has a material and ideal form, while idealism begins with two principles – the material and the ideal which, according to dualism, contradict each other.) I. V. Stalin, *Sočinenija*, t. 1, p. 327. Quoted by Rubinštejn, 'Perestrojka', p. 201.

[86] Rubinštejn, *Osnovy*, p. 85.

[87] Rubinštejn, *Principy*, pp. 249–256.

[88] "Eto položenie [edinstva soznanija i dejatel'nosti] vse ešče vyražalo otnošenie soznanija i dejatel'nosti kak vnešnee sootnošenie dvux obosoblennix členov (k tomy že bez opredelenija xarakter ix vzaimootnošenii, bez ukazanija na to, čto pervično, čto iz čego proisxodit)." (This principle [of the unity of consciousness and activity] expressed nonetheless, the relation of consciousness and activity as two isolated members (without determining the character of their interaction, without showing which was primary and which derived).) Rubinštejn, *Principy*, p. 251.

[89] *Ibid.*

[90] 'Osnovnoe pozitivnoe soderžanie položenija o edinstve soznanija i dejatel'nosti zaključaetsja v utverždenii ix vzaimosvjazi i vzaimoobuslovennosti." (The fundamental, positive content of the principle of the unity of consciousness and activity is the affirmation of their interconnection and interdetermination.) *Ibid.*

[91] Cf. Chapter II.

[92] "Psixičeskie javlenija, kak i ljubye drugie, svjazany so vsemi javlenijami žizni, so

vsemi storonami i svojstvami material'nogo mira. V različnyx svjazjax oni vystupajut v raznom kačestve: to kak reflektornaja vysšaja nervnaja dejatel'nost', to kak ideal'noe v protivopoložnost' materal'nomu ili kak sub"ektivnoe v protivopoložnost' ob"-ektomu." Rubinštejn, *Bytie i soznanie*, p. 4.

[93] Rubinštejn, *Principy*, p. 8.

[94] Cf. Chapter II, reference 90.

[95] Cf. Chapter II, reference 88.

[96] Cf. Chapter II, reference 93.

[97] "Xaraktera psixičeskix javlenij – kak i ljubix drugix – ne zavisit ot točka zrenija, s kotoroj oni rassmatrivajutsja." (The character of psychic phenomena – as of any other – does not depend on the point of view from which they are observed.) Rubinštejn, *Bytie i soznanie*, p. 41.

[98] "Vsjakoe javlenie, vključajas' v novye svjazi, vystupaet v novom kačestve, kotoroe fiksiruetsja v novoj ponjatijnoj xarakteristike." *Ibid.*, p. 259.

[99] "Ključ k rešeniju voprosa zaključaetsja v tom, čto, pol'zujas' vyraženiem Gegelja, osobo otmečennym Leninym, *odna i ta že vešč' est' i ona i sama i nečto drugoe*, poskol'ky ona vystupaet v raznyx sistemax svjazej i otnošenij. Govorja konkretnee, psixičeskie javlenija – kak i vse pročie – v raznyx sistemax suščestvennyx dlja nix svjazej i otnošenij vystupajut v raznyx kačestvax, to est' drugie kačestva, svojstva, aspekti vystupajut v nix kak veduščie, opredeljajuščie." Rubinštejn, *Principy*, p. 9.

[100] "Vsajakaja konkretnaja vešč', vsjakoe konkretnoe nečto stoit v različnyx i často protivorečivyx ontošenijax ko vsemuostal'nomu, ergo, byvaet samim soboj i drugim." V. I. Lenin, *Filosofskie Tetradi*, *Sočinenij*, tom 29, p. 124.

[101] Cf. 'Kačestvo' and 'Svojstvo', in: M. Rozental i P. Judin (Red.), *Filosofskij slovar'*, M. 1963, pp. 193, 399.

[102] "... odin i te že psixičeskie javlenija vsegda vystupajut i v tom i v drugom kačestve." Rubinštejn, *Bytie i soznanie*, p. 4–5.

[103] Rubinštejn, *Principy*, p. 9.

[104] "Na samom dele isxodnymi členami osnovnogo gnoseologičeskogo otnošenija javljajutsja ne obraz i veš̆c, a poznavajuščij otražajuščij ob"jektivnuju real'nost' sub"ekt: ob"ektivnaja real'nost' s kotoroj sub"ekt vzaimodejstvuet." (In fact the primary members of the fundamental epistemological relations are not image and thing, but the subject which knows and reflects objective reality and the objective reality with which the subject interacts.) Rubinštejn, *Principy*, p. 10.

[105] *Ibid.*

[106] Rubinštejn, *Bytie i soznanie*, pp. 319, 222–224; *Principy*, p. 9.

[107] "Bolee obščie zakony niželežaščix oblastej rasprostranjajutsja i na vyšeležaščie oblasti, no ne isčerpyvajut zakonomernostej étix poslednix. Veduščimi zakonomernostjami každoj oblasti javljajutsja ee specifičeskie zakonomernosti, opredeljajuščie veduščie specifičeskie svojstva dannoj oblasti javlenij." (The more general laws of the lower levels are valid also for the higher levels but do not exhaust the regularities (*Gesetzmässigkeiten*) of the latter. The principle regularities of each level are the specific regularities, which determine the principle specific properties of the given level of phenomena.) Rubinštejn, *Principy*, p. 30.

[108] *Ibid.*, p. 31; Cf. also 'Voprosy psixologičeskoj teorii' [Questions of Psychological Theory], *VP*, 1955,1, p. 10.

[109] *Ibid.*

[110] Rubinštejn, *Bytie i soznanie*, p. 10.

[111] "Svojstvo otraženija, kotorym obladaet vse suščestvjuščee, vyražaetsja v tom, čto

na každoj vešči skazyvajutsja te vnešnie vozdejstvija kotorym ona podvergaetsja." (The property of reflection which all existing things possess is expressed in the fact that each thing bears the mark of the outer impulses to which it has been subject.) *Ibid.*, p. 11.

[112] Lenin, *Materializm i empiriokriticizm*, *Sočinenij*, t. 18, p. 91, (89). Cf. Chapter I, pp. 25–27.

[113] Cf. Chapter I, reference 146. For a more detailed account in English of the theory of reflection cf.: T. J. Blakeley, *Soviet Theory of Knowledge*, Dordrecht 1964, esp. Ch. 3.

[114] Rubinštejn, *Bytie i soznanie*, p. 10.

[115] "*Otraženie kak obščee svojstvo materii*, vsex sfer vzaimodejstvija v material'nom mire zaključaetsja, vo-pervyx, v tom, čto vnešnie vozdejstvija obuslovlivajut i samoe vnutrennjuju prirodu veščej i javlenij, kak by otkladyvajutsja v nej tak, čto v každom javlenii rezul'tatami svoix vozdejstvij na nego kak by 'predstavleny', otraženy vse vzaimodejstvujuščie s nim predmety; pri étom, vo-vtoryx, ljuboe vozdejstvie odnogo javlenija, na drugoe prelomjaetsja čerez vnutrennie svojstva togo javlenija, na kotoroe éto vozdejstvie okazyvaetsja. Rezul'tat ljubogo vozdejstvija na javlenie ili predmet zavisit ne tol'ko ot javlenija ili tela, na nego vozdejstvujuščego no i ot prirody, ot sobstvennix vnutrennix svojstv togo predmeta ili javlenija, na kotoroe éto vozdejstvie okazyvaetsja." (Reflection as a general property of all spheres of interactivity in the material world consists, first, in the fact that external activities condition even the internal nature of things and phenomena, so impressing themselves on these phenomena that every phenomenon 'represents' or reflects the objects which interact with it by registering in itself the results of their activity; and, second any activity of one phenomenon on another is refracted by the internal properties of the phenomenon on which the activity is exerted. The result of any action on a phenomenon or object depends, not only on the phenomenon or body acting on it, but also on the nature, on the peculiar inner properties of the object or phenomenon on which that activity is exerted.) Rubinštejn, *Principy*, p. 11.

[116] '... priroda javlenij predstavlejaet tu 'prizmu'. čerez kotoruju odin predmety i javlenija otražajutsja v drugix." Rubinštejn, *Bytie i soznanie*, p. 11.

[117] "Poskol'ku vozdejstvija každoj vešči na druguju prelomljajutsja čerez svojstva étoj poslednej, vešči 'otržajut' drug druga." *Ibid.*

[118] *Ibid.*, p. 12; *Principy*, p. 12.

[119] *Ibid.*, p. 13.

[120] *Ibid.*

[121] *Ibid.*, pp. 13–14.

[122] "'Reflektornoe' ponimanie psixičeskoj dejatel'nosti – kak vyše otmečalos', označaet, čto psixičeskaja dejatel'nost' est' vnešne obuslovlennaja otvetnaja dejatel'nost'; ona – vnešne obuslovlennaja otvetnaja dejatel'nost' mozga čeloveka." (The 'reflex' conception of psychic activity – as mentioned above – means that psychic activity is externally conditioned response-activity; it is the externally conditioned response-activity of the human brain.) Rubinštejn, *Principy*, p. 25.

[123] "Psixičeskaja dejatel'nost' mozga možet byt' otraženiem mira, liš' poskol'ku ona nosit reflektornyj xarakter, poskol'ku psixičeskie javlenija opredeljajutsja v samom svoem vozniknovenie vozdejstviem veščej, otraženiem kotoryx oni v silu étogo javljajutsja." (Psychic activity of the brain can only be a reflection of the world in so far as it has a reflex character, in so far as psychic phenomena, in their very origin, are determined by the action of those things whose reflection they are.) Rubinštejn, *Bytie i soznanie*, p. 5.

[124] Rubinštejn, *Principy*, p. 12; cf. also: 'Voprosy psixologii myšlenija i princip determinizma' [Problems of the Psychology of Thought and the Principle of Determinism], *VF*, 1957,5, pp. 101–113.
[125] Rubinštejn, *Principy*, p. 15.
[126] *Ibid.*, p. 16.
[127] *Ibid.*
[128] "... soglasno dialektiko-materialističeskomu determinizmu, vsjakoe dejstvie est' vzaimodejstvie, vnešnie pričiny dejstvujut čerez posredstvo vnutrennix uslovij." (According to dialectical-materialist determinism every action is interaction, the outer causes act through the medium of the inner conditions.) Rubinštejn, *Principy*, p. 12.
[129] Rubinštejn, *O myšlenij i putjax ego issledovanija* [On Thinking and the Paths of its Investigation], M. 1959, p. 7.
[130] Rubinštejn, *Bytie i soznanie*, p. 11.
[131] Rubinštejn, *Principy*, p. 25.
[132] "Teorija otraženija dialektičeskogo materializma – éto rasprostranenie dialektiko-materialističeskogo principa determinizma na poznavatel'nuju dejatel'nosti čeloveka, podobno tomu kak reflektornaja teorija – éto raspostranenie togo že dialektiko-materialističeskogo principa na psixičeskuju dejatel'nost' mozga." (The theory of reflection of dialectical materialism is the extension of the dialectical materialist principle of determinism to the cognitive activity of man, just as the reflex theory is the extension of the same dialectical materialist principle to the psychic activity of the brain.) Rubinštejn, *Principy*, p. 15.
[133] "... psixičeskie javlenija, soznanie ne vovse čužerodno material'nomu miru i ne obosobleno ot nego; a samym fundamentom material'nogo mira ego ob"edinjaet obščee svojstvo otraženija." (... psychic phenomena, consciousness are not entirely alien to the material world and are not isolated from it; the general property of reflection unites them with the very foundation of the material world.) *Ibid.*, p. 21.
[134] Rubinštejn, *Bytie i soznanie*, p. 12.
[135] *Ibid.*, p. 318.
[136] Rubinštejn, 'Voprosy psixologičeskogo teorii' [Questions of Psychological Theory], *VP*, 1955,1, p. 6.
[137] Cf. Rubinštejn, *Bytie i soznanie*, pp. 3, 29, 317; *Principy*, p. 7, etc.
[138] For Rubinštejn, the psychophysical problem is not merely the body-mind problem or the problem of the relation between psychic and physiological events, but the wider problem of the relation of the psychic to the material world. Cf. Rubinštejn, 'Problema soznanija v svete dialektičeskogo materializma' [The Problem of Consciousness in the Light of Dialectical Materialism], *Izvestija AN SSSR, serija istorii i filosofii*, 1945, vyp. 3, p. 145; *Bytie i soznanie*, pp. 15ff.
[139] Rubinštejn, *Principy*, p. 8.
[140] "Specifičeskij krug javlenij, kototye izučaet psixologija, vydeljaetsja otčetlivo i jasno – éto naši *vosprijatija, mysli, čuvstva*, naši *stremlenija, namerenija, želanija* i.t.p., – vse to, čto v kačestve perežitvanija kak budto neposredstvenno nam dano." Rubinštejn, *Osnovy*, p. 5.
[141] "Psixologičeskoe poznanie – éto oposredovanno poznanie psixičeskogo čerez raskrytie ego suščestvennyx, ob"ektivnyx svjazej i oposredovany." Rubinštejn, *Osnovy*, p. 22.
[142] Rubinštejn, *Bytie i soznanie*, p. 4.

CHAPTER V

THE PSYCHIC AND THE EXTERNAL WORLD

A. INTRODUCTION

In Chapter IV it was shown that, for Rubinštejn, the psychic is essentially constituted by its twofold relationship to the material world. In virtue of its relationship to the inner matter of the brain it is a function of that organ and assumes the quality of higher nervous activity; in its relationship to the outer material world it appears as an ideal reflection. Consequently, it is the task of psychology to study the psychic under each of these aspects. The greater portion of the two major works written by Rubinštejn after 1950 – *Being and Consciousness* and *Principles and Paths of Development of Psychology* – is given over to an analysis of the psychic under each of these aspects. Of the two last-mentioned works *Being and Consciousness* gives the clearest and most detailed presentation of Rubinštejn's thought on the aspects of the psychic. In *Being and Consciousness* Rubinštejn is primarily concerned with strictly philosophical questions while *Principles* and the short monograph *On Thinking and the Paths of its Investigation* contain more experimental material. As the present work is directly concerned with the philosophical questions of psychology, *Being and Consciousness* will be the primary source for the extended discussion of Rubinštejn's thought on the 'aspects' of the psychic, which will be the subject of this and the following chapter.

As Rubinštejn did not develop his theory of the 'aspects' of the psychic until after 1950, books and articles written before that date will only be referred to in passing where they illustrate some aspect of Rubinštejn's later thought. During the same period (1950–60) he also published a large number of articles on the same topic. However, since the material they contain was later incorporated in his two major works of this period, we shall rarely have occasion to refer to them.

Though Rubinštejn treats each of the aspects of the psychic separately, he nonetheless insists that these aspects cannot be isolated from one another.

> ... the psychic must be studied in the concrete, considering all its connections and mediations; its various characteristics must be brought out and correlated according to the objective logic of the connections and relationships in which these characteristics appear. This is the starting point for true scientific investigation, which alone will be able to overcome the various onesided, arbitrary 'points of view'.[1]

One and the same psychic phenomenon is both a form of cerebral activity and a reflection of the material world. Though the question of the psychic's relation to the outer world and that of its relation to the brain seem to pose two heterogeneous problems – the one epistemological, the other physiological – they are, nonetheless, so intimately connected that the answer to one inevitably implies the answer to the other.[2]

This insistence on the interdependence of the two aspects of the psychic helps to explain the interplay of psychological and physiological data which characterizes Rubinštejn's treatment of these questions. In considering the psychic as an ideal reflection, Rubinštejn is forced to consider the implications of his theories for physiology; while his explanation of the physiological mechanisms by which the ideal image is produced must be correlated with the demands of epistemology.[3]

Following the order adopted by Rubinštejn in *Being and Consciousness* we shall first consider the psychic in its quality of ideal reflection, leaving the further problem of the psychic as a function of the brain to the following chapter.

B. REFLECTION AND IDEAL IMAGE

In explaining Rubinštejn's theory of the aspects of the psychic, we saw that Rubinštejn, following Lenin, states that in its relationship to the external world, i.e. within the limits of epistemology, the psychic acquires the property of ideal. The ideal quality of the psychic represents what Rubinštejn calls the 'essence' of the psychic.[4] In virtue of its ideal quality the psychic stands apart from the other phenomena of the material world and is consequently irreducible to the other levels of matter. Whereas the *ontological* character of the psychic, the quality of higher nervous activity, is represented as expressing the connection of the psychic with the material world, the epistemological aspect was presented as expressing the opposition which exists between it and external reality.

However, it would be erroneous to consider the epistemological character of the psychic as primarily establishing an opposition between the psychic and the material world. The epistemological relationship of the psychic to external reality is not simply a relationship of opposition. This relationship is in fact twofold: it includes both opposition and connection. This twofold epistemological relationship is expressed by the terms 'ideal, subjective reflection'. The terms 'ideal' and 'subjective' express the opposition between the psychic and the outer world. On the level of epistemology the psychic is *ideal* as opposed to material and *subjective* as opposed to objective. But opposition is not the primary characteristic of the relationship of the psychic to the outer world. This relationship is primarily one of connection.[5] The first function of the psychic is to establish a connection between the individual subject and external reality. This connection is signified by the term *reflection* in the expression 'ideal, subjective reflection'.

It should be noted that, for Rubinštejn, reflection has an affective as well as a cognitive aspect. The action of the objects and phenomena of the outer world is reflected in the subject not only in the form of "graphic images" (*nagljadnye obrazy*) but also in the form of "relationships" (*otnošenija*).[6] These 'relationships' are made up of our needs, interests, feelings and desires; even our personal characteristics have been formed by, and therefore reflect, the action on us of the external world. The reflex-conception of the psychic is applicable to man's psychic properties, his abilities and skills, since these are defined as the ability of the individual to react to objective influences with a corresponding form of psychic activity.[7]

Though the conception of the psychic as forming a connection between man and his environment is particularly evident in the affective aspect of the psychic, Rubinštejn concentrates on the cognitive aspect of reflection and devotes surprisingly little attention to the affective aspect. For Rubinštejn the central element in reflection is that it establishes a new "epistemological relationship" (*gnoseologičeskoe otnošenie*) between man and his environment.[8] At the same time, the establishment of this epistemological relationship is not an end in itself; it is ordered to the more fundamental relationship of man to his environment which is *practice*.

Knowledge and Practice

The idea that knowledge is essentially ordained to practice is already contained in Rubinštejn's principle of the unity of consciousness and behaviour. In his earlier works, and particularly in *Fundamentals*, Rubinštejn insists that the function of thought or consciousness is to guide and direct activity. However, the essential subordination of knowledge to activity is not clearly formulated until his later works.[9] In *Being and Consciousness* and in *Principles*, Rubinštejn repeatedly insists that thought is subordinate to practice. In the first place he states that "the starting-point for the dialectical-materialist theory of reflection is the interaction between man, the subject, and the world"[10]; the role of the psychic is to direct this interaction. It guides man's activity by revealing the necessary conditions for right action. Without this function, knowledge would be no more than a "useless duplicate of the phenomena of the outer world".[11] Rightly understood, the question of the knowledge of the world is, in the last analysis, the question of its transformation.[12]

In the second place, activity is not only the goal of knowledge but also one of its conditions. The action which man exercises on the objects of the material world uncovers their inner nature and reveals their essential properties.[13] By changing the world man comes to know it more profoundly. In short, "consciousness conditions man's behaviour and activity; activity in its turn changes nature and transforms society".[14]

The subordination of knowledge to practice in no way detracts from its role as an ever deeper penetration into reality, as a progressive uncovering of the inner nature of the things and phenomena of the external world. "The natural goal of knowledge is to discover the essential, real inner properties of the thing."[15] The task of scientific thought is, for Rubinštejn as for Socrates and Aristotle, to answer the question '*ti esti?*', 'what is it?'[16] It is precisely because it is the guide of practice that knowledge must provide an accurate picture of the material world.

> Thought in the full sense of the word, is a penetration into ever new levels of being, bringing to light what hitherto lay hidden in the unfathomable depths of reality; it means posing and answering the problem of being and life, it is a search for, and a discovery of, the answer to the question 'what is reality?' an answer which must be found if one is to know how to live and what is to be done.[17]

The fact that the psychic is a reflection of external reality and that it therefore establishes a cognitive relationship between man and the material world, means that it is dependent on both the subject and the object of knowledge. This dual dependence of the psychic is already affirmed by Rubinštejn in *Fundamentals*, but it is only in his later works that the interrelation of subject and object is fully explained. In his later works Rubinštejn has recourse to the dialectical-materialist principle of determinism to explain how the influences of subject and object are correlated in the determination of the psychic. According to the principle of determinism the effect of any action depends both on the nature of the agent and of the thing acted upon. As applied to knowledge it means that the determination of knowledge by its object is mediated by the inner characteristics of the knowing subject. It follows therefore that knowledge is no mere passive reception of images but involves the cognitive activity of the subject.

C. THE OBJECT OF KNOWLEDGE

The relationship of knowledge to its object is expressed in the statement that knowledge is a reflection of being and an image of the external world.[18] This proposition is directed against presentationism on the one hand, and against representationism on the other.[19]

By presentationism Rubinštejn means the monistic epistemological idealism of Berkeley and Mach, according to which the object of knowledge is that which is immediately given to the subject, namely sensation or sense-data; while by representationism he means that form of epistemological dualism which states that in the cognitive process, our ideas are the representatives or ambassadors of the external world. Though the last-mentioned theory admits that the object of knowledge is the thing as it exists outside of the mind, it also insists that it is not known directly but only through the mediation of the image or idea in the mind of the knower. Rubinštejn does not undertake a detailed examination of these theories, for his purpose is merely to show how the Marxist-Leninist theory of reflection avoids the difficulties encountered by each. It asserts against presentationism that object and image are distinct, that the objects of knowledge are the things and phenomena of the material world. At the same time it avoids the pitfall of representationism by maintaining that,

though object and image are distinct, the image is dependent on the object it represents.

The Marxist-Leninist theory of reflection steers a middle course between these two extremes. Against presentationism it asserts that object and image are distinct, that the object of knowledge is the things and phenomena of the material world. It affirms against representationism, that the image depends on the object.

However, it is not quite clear precisely how Rubinštejn conceives of this dependence. Against representationism he asserts that the image is *caused* by the object. This causality appears to belong, in the first place, to the order of efficiency, for he states that "psychic phenomena arise in the process of the interaction of the subject with objective world, that is to say, in a process which begins with the action of the thing on man".[20] Thus the physical action of the object on the subject is the starting-point for the cognitive process. This means, according to Rubinštejn, that the dialectical-materialist theory of knowledge *starts* with objective reality. The fundamental problem for representationism is to 'break out' of the interior world of consciousness into the external world. For the theory of reflection this problem does not exist; for it the primary movement in knowledge is not from consciousness to objective reality but from objective reality to consciousness. Rubinštejn calls this the "Copernican Revolution" in theory of knowledge.[21]

The dependence of the image on the objective is not only efficient but also formal.

> ... the image of the thing is the ideal (that is to say reflected in the subject or in his brain) *form of the reflected existence of the* thing. That means that *the image is neither the thing itself nor a sign of the thing, but rather its reflection.*[22]

Rubinštejn here affirms the *formal* identity of the image with the object. This statement will later be qualified in the light of Rubinštejn's teaching on the ideal reconstruction of the object through the cognitive activity of the subject, but for the moment it is sufficient to note that Rubinštejn is asserting that the idea is a replica of the object and not a mere hieroglyphic or symbol. Rubinštejn's theory of the formal dependence of the image on the object is approximately the same as the scholastic thesis according to which the knower is intentionally informed by the form of the thing known.

D. THE SUBJECT OF KNOWLEDGE

Knowledge is a moment in the total interaction of the subject with objective reality. Consequently, it depends both on the object and on the subject. The 'essence' of the psychic is to be a reflection of objective reality, but this reflection or image only exists in and through the subject.

The problem of the relation of knowledge to the knowing subject is one aspect of the more general problem of the relationship of the psychic as such to a subject. As already pointed out, the psychic has both a 'gnostic' and an affective side. It is not only knowledge of the external world but expresses the emotional and volitive relationship of the individual to the world around him. The epistemological aspect of the relationship of the psychic to the subject will be treated first, under the headings 'The Levels of Cognitive Activity' (Section 2) and 'The Basic Cognitive Operations' (Section 3). The affective aspect of this relationship will be considered in terms of the problem of personality (Section 4). Before passing on to these problems we must first consider the question of the basic mode of existence of the psychic.

1. The Basic Mode of Existence of the Psychic

Since the psychic only exists in the subject the question arises, in what form does it exist?: is the psychic a property or an activity of the subject, or something else? Rubinštejn replies that the psychic exists in the subject in many different forms; as a process, a property, an image, but that the "basic mode of existence of the psychic" (*osnovnoj sposob suščestvovanija*), is its existence as a process or activity.[23] The other modes under which the psychic appears are only aspects of this basic mode.

Every psychic act produces a "formation" (*obrazovanie*).[24] This may be either an image of the external world or an emotion. The image or emotion seems at times to have a static quality, to exist apart from the activity which produced it, to endure when the activity has disappeared. Rubinštejn, however, insists that both image and emotion are fundamentally processes. The element of duration which seems to give them a static quality is explained by an unbroken succession of processes in the subject. The 'formation' does not exist apart from the activity of the subject; it is in fact the activity itself in its "resultant expression" (*v ego*

rezultativnom vyraženii).[25] Consequently, the first task of psychology is to study the psychic as a process or activity. Thought must be studied as the 'thinking process' and consciousness must be studied as the process by which man becomes conscious of the world around him.

But what is psychic activity? To answer this question Rubinštejn introduces a distinction between "process" (*process*) and "activity" (*dejatel'nost'*).[26] Every activity is a process (or a combination of processes) but every process is not activity. Activity is always an interaction between the individual and the world. The subject of activity is always the concrete individual. It expresses his relationship to reality and to other men and includes his motives, goals and attitudes.

A process, on the other hand, refers either to the working of a particular organ or to the structure of a particular form of activity, abstracting from those personal elements, such as motives, attitudes etc. which always accompany it in the concrete situation. For example, thought appears as *activity* when one takes into account all the personal considerations involved, such as motivation, goals to be attained. In other words, thought appears as activity when it is considered in relation to the total life of the concrete individual. On the other hand, thought appears as a process when one abstracts from these personal elements and considers only the structure of thinking, i.e., as a form of analysis and synthesis.

The introduction of these two distinctions, (1) between process and activity, and (2) between process and activity on the one hand, and the psychic "formation" (*obrazovanie*) on the other – enables Rubinštejn to distinguish psychology from the other sciences. In *Principles* Rubinštejn defines psychology as "the science which investigates the regularities (*zakonomernosti*) of human psychic activity which is realized by the brain".[27] He further defines psychic activity as a "psychic process or a collection of processes which satisfy a vital human need and which is directed towards a definite goal more or less directly connected with the satisfaction of this need".[28]

Psychology is, then, the science which studies the laws or regularities of psychic activity. But Rubinštejn's definition of psychic activity is too wide to distinguish psychology from other sciences. The definition of activity includes all human activity, which, as Rubinštejn admits, is studied by sciences other than psychology. In so far as human activity satisfies an aesthetic need, it appears as aesthetic activity and so becomes

the object of the science of aesthetics.[29] Similarly one could add that human activity would be the object of ethics in so far as it is related to an ethical goal. In scholastic terminology human activity, which Rubinštejn in places refers to as psychic activity, is the *material object* of psychology. Speaking of thought and perception as activities which express or realize man's relationship to the world around him, Rubinštejn states that they appear as cognitive or aesthetic activity in so far as they attain a cognitive or aesthetic purpose but that they can only be considered as psychic from the point of view of their processional or motivational aspect not from the point of view of the tasks they fulfill.[30] Again, speaking of the psychic 'formation', which is the product of psychic activity, he states that it is in virtue of this product that psychic activity is related to the other sciences. Thinking, he says "enters the sphere" of logic, mathematics, etc. through the concept (*ponjatie*).[31]

The relationship of psychology to the other sciences is illustrated by Rubinštejn's treatment of the problem of the relationship between psychology, logic and theory of knowledge, a problem to which he frequently returns in his later works.[32] According to Rubinštejn, cognitive activity is the object of these three sciences. But theory of knowledge and logic are primarily concerned with the product of cognitive activity, theory of knowledge being concerned with the problem of truth – is the product of cognitive activity an adequate picture of objective reality? – and logic with the conditions which must be present if the image is to correspond to reality. Psychology, on the other hand, studies cognitive activity as an activity or a process and is concerned with the structure of the act and the individual conditions under which it takes place.

Rubinštejn therefore seems to consider psychology as the general science of human activity. Where other sciences study human activity, either in terms of the tasks it fulfills or of the products of that activity, psychology is concerned with the general structure of human activity and the concrete conditions under which it is produced. Its task is, therefore, twofold: (1) to study the general structure of human activity, and (2) to study those individual or personal conditions which influence the course of human activity. The first of these considerations raises the question of the levels of cognition and of the basic cognitive functions, the second raises the question of personality.

2. *The Levels of Cognitive Activity*

In common with the generality of Soviet psychologists, Rubinštejn distinguishes two levels of knowledge: the sense (*čuvstvennoe*) level and the level of thought (*myšlenie*). The sense-level is that of *immediate* knowledge, that is to say, it attains those properties of the object which are immediately observable. Knowledge on the level of thought is *mediate*, that is to say, it attains those properties of the external world which are not immediately observable such as the atomic structure of bodies, etc.[33] It attains these properties mediately in the sense that it has its starting-point in those properties which are immediately observable.

Though the sense-level and the level of thought are 'essentially' distinct – the passage from sensation to thought involves a 'leap' – the cognitive process is, nonetheless, a unified process.[34] In the first place, abstract thought is impossible without sensation: it always begins with sensation and always includes some sensible content.[35] Secondly, sensation is enriched through its connection with thought.[36] For example, the motion of a machine is perceived in different ways by a scientist who understands its internal structure and by an untrained observer.[37]

a. The Level of Sense Knowledge

Rubinštejn distinguishes two further levels within the level of sense-knowledge: that of sensation properly so-called (*oščuščenie*) and that of perception (*vosprijatie*).[38]

There is considerable confusion in Rubinštejn's thought on the nature of sensation and its relationship to perception. In the textbook *Psychology*, Rubinštejn gives a clear, traditional explanation of the difference between sensation and perception:

> *Sensations* are the initial stage in the reflection of reality. They are the reflection of the individual properties of the objects and phenomena of the material world acting on our sense organs (the sensation of colour, sound, smell etc.). In *perception* objects and phenomena are reflected as having a multiplicity of properties. When we look at an object we do not simply see its colour, form and size separated from one another, but we perceive it as a whole (a house, a table, a pencil etc.).[39]

In short, sensation is made up of discrete images of individual properties of the object, whereas perception synthesizes these images and presents a single, holistic image of the thing as an object.

However, in *Being and Consciousness* Rubinštejn gives a more complicated description of sensation and perception. He begins by saying that the sense-reflection of reality starts with the distinction (*različenie*) and differentiation (*differencirovka*) of the stimulus (*razdražitel'*).[40] Distinction is the reception of a particular property of the object by the corresponding sense organ, e.g., colour by the eye. The result of this reception or distinction is a sense impression (*vpečatlenie*). This impression does not constitute sensation properly so-called. Sensation as such is the result of the differentiation of the stimulus which is the analysis of the stimulus through its connection with the response-reaction of the organism. In other words, sensation in the strict sense of the word only occurs when the primitive sense impression has been analyzed and its vital significance for the organism determined. Consequently, sensation always involves a conditioned reflex in which the primitive impression acts as a *signal* for other vitally significant properties of the object. Sensation therefore, contains more than the primitive impression. It is essentially a signal for the vitally significant properties of the object.

According to Rubinštejn, we pass from sensation to perception when the sensible impression ceases to function as a signal and appears as an image of the object.[41] In perception the image is a holistic picture of the *object* in which the properties of the object are no longer reflected as discrete elements, but in their relationship as an *object*. Hence Rubinštejn states that in perception we pass "from the analysis, i.e., from the differentiation of the *stimulus* to the analysis (and synthesis) of the sensible properties of the *object* which is reflected in sensation".[42] It would seem, then, that Rubinštejn considers that the object as such is only attained in perception and that sensation only attains the stimulus as a *signal*. This would reduce sensation to a purely physiological phenomenon and deprive it of any 'gnostic' content, for according to Rubinštejn, from the point of view of physiology, reality is a collection of *stimuli*, whereas for psychology it is made up of *objects*.[43] As long as the phenomenon or thing functions merely as a stimulus, the 'gnoseological' or epistemological element is entirely absent.

Elsewhere Rubinštejn states quite clearly that sensation is both an epistemological and a psychological category. In *Being and Consciousness* he writes:

Psychic phenomena arise when, in the course of the reflex activity of the brain

(in the process of the differentiation of the stimulus) sensations arise and the stimulus which is reflected appears as an object.[44]

The same idea is repeated in *Principles*:

With the appearance of sensation, that is to say psychic phenomena, in the course of reflex activity, an epistemological relationship to the object is established.[45]

The source of the confusion seems to lie in Rubinštejn's premise that psychic phenomena only arise, and an epistemological relationship is only established, when the stimulus appears as an *object*. On the basis of this premise, psychic phenomena are only present on the level of perception and sensation is a 'pre-psychological' and 'pre-epistemological' stage or process. But since perception synthesizes the images of the individual properties of the object, Rubinštejn is forced to admit that sensation has a 'gnostic' content and is, consequently, a psychic process.

b. The Level of Thought

Thought or thinking (*myšlenie*) constitutes the second level of cognitive activity. Like sensation and perception it is both an activity of the subject and a reflection of being. Thought differs from sensation and perception in being an indirect, or mediate reflection of reality, that is to say, it attains objective reality through the mediation of images formed in sense knowledge.

For Rubinštejn the basic difference between sense knowledge and thought is that the former only attains the "sensible surface of reality" (*čuvstvennaja poverxnost' dejstvitel'nosti*), while thought attains the "essence" (*suščnost'*) or "essential properties" of the things and phenomena of the material world.[46]

All the objects and phenomena of reality interact and are interdependent. Everything is in some way the product of the general system of interaction in which every outer impulse is refracted by the characteristics of the thing acted upon. In perception we only attain to the "summary effect" (*summarnyj effekt*) of the general interaction of phenomena[47] which is what Rubinštejn calls the "sensible surface of reality". The role of thought is to *analyze* this total end-effect and to separate the real inner properties of the thing from the result of the action of other objects on it. Moreover, the 'summary effect' also includes the interaction of the subject with the

external world.[48] The things and phenomena of the material world interact, not only with one another but with the subject. For example, the sensation of the temperature of a thing is not only dependent on its actual temperature, but also on the inner state of the perceiving subject. If I take my hand out of cold water and plunge it into a dish of warm water the water will appear warmer than if I first placed it in a dish of warm water before plunging it into the second dish. Thought, therefore, has the further task of analysing the total effect of the interaction of subject and object as it appears in sensation and to separate the *objective* properties of the thing from the subjective mode of its perception. The function of thought is, therefore, to grasp the 'essences' of things by abstracting from the accidental conditions (*privxodjaščie obstojatel'stva*) in which it is found.[49]

c. Thought and Speech

"Thought in the strict sense of the word is impossible without speech. Abstract thought is *linguistic* (*jazyknoe*) thought, it is *thought in words.*"[50] Rubinštejn's treatment of the relationship between thought (or thinking) and speech is identical in both *Being and Consciousness* and *Principles.* In both works he begins by introducing F. de Saussure's distinction between language (*la langue*) and speech (*le langage*). Language (*jazyk*) is the object of linguistic science.[51] It is the collection of words, related by the rules of grammar, which is the means of expression for a particular nation or group of nations. Speech (*reč'*) is the application of this linguistic material by the individual according to his actual needs for the purpose of communication. Language, accordingly, is the collection of "means" (*sredstva*) used in speech. Speech is the active use of these means.

Language is the necessary condition for the genesis and existence of thought. The acquisition of language allows the individual to abstract particular properties from the things and phenomena of the material world and to objectivize them in the word. So objectivized, the abstract property becomes an 'ideal' object and provides the object for theoretical thought. In theoretical thought, the 'ideal' object, which is itself the result of analysis, synthesis and generalization, is subjected to a further process of analysis, synthesis, etc. This second operation permits the knower to transcend the limits of the primary sensorial data, to pass into the

realm of abstract thought and so discover new properties and aspects of reality.[52]

Language is the basis of thought. The word is the "linguistic shell" (*jazykovaja oboločka*) apart from which thought cannot exist.[53]

Language as such is the "fixed result" (*fiksirovanyj rezultat*)[54] of the cognitive activity of preceding generations. It is a definite system of analysis, synthesis and generalizations of the phenomena of reality which has been elaborated by a particular race in the course of history and reflects the race's experience of the world around it. The semantic content of language, therefore, enshrines the result of the analyses, syntheses and generalizations of preceding generations. The relatively fixed or stable quality of language means that in relation to the individual language appears as an 'objective reality' existing independently of him.[55] In learning his native language the child acquires, at the same time, a definite system of analysis, synthesis and generalization which has been passed on by his ancestors and which conditions his thought.

The psychological problem of speech, as distinct from language, is the problem of communication. Speech, both verbal and graphic, is the vehicle of communication[56], not merely between individuals but also between the individual and society. By being objectivized in speech, human thought achieves a certain autonomy in relation to the individual. It ceases to be limited to the momentary act which produced it and becomes part of the store of knowledge of the race – what Rubinštejn calls "system of scientific knowledge".[57] Speech then is the means by which knowledge is passed on, not only from individual to individual but also from generation to generation.

In the context of the relationship between thought and language, and in particular of the relationship between thought and speech, Rubinštejn's conception of the social nature of human knowledge is most in evidence. Throughout *Being and Consciousness* and *Principles* Rubinštejn continually insists that human knowledge transcends the limits of the individual knower. For Rubinštejn, "knowledge is a historical category. It cannot be reduced to the momentary act in which it was produced, only to be extinguished."[58]

As objectivized in the word knowledge begins to serve a social purpose. It can be communicated from individual to individual. Moreover, it can become part of the store of knowledge of the human race. Through its

objectivization in speech the knowledge which the individual acquires ceases to be a purely personal acquisition and accrues to the human race as a whole. It becomes a *social* acquisition.

At the same time the knowledge which the individual has of reality is itself socially determined.[59] In the first place, the structure of his thought is conditioned by the structure of his native language, which is a social product. But more important is the fact that the object of human thought is not only the outer, 'sensibly perceived' reality but the "socially created system of knowledge" (*obščestvenno vyrabotannaja sistema znanij*).[60] That is to say that the object of knowledge is not only the external world but the whole wealth of human science and art, formed in the course of history.

This "socially created system of knowledge" is, for the individual, an "objective reality". His knowledge of the outer world is closely bound up with, and is conditioned by, the socio-historical development of thought. Knowledge is a social product and a social possession. The individual contributes to and shares in knowledge through membership in the collective.[61]

Rubinštejn's conception of knowledge as objectivized in speech and constituting the system of 'historically formed' science is clearly inspired by the Hegelian notion of 'objectivized Spirit' (*objektivierter Geist*). Objectivized science for Rubinštejn, is the concrete expression of the spiritual life of society, the result of the cognitive activity of the race. In relation to the individual it is an 'objective reality' existing outside and independently of his consciousness. Consequently, the reality which is reflected by the consciousness of the individual, and by which it is formed, is not only the objective being of material, sensible reality, but also the 'ideal being' of human science and art.

3. The Basic Cognitive Operations

As already pointed out, knowledge, for Rubinštejn, is a unified process. It is an ever deeper penetration into the inner nature of reality, a continuous uncovering of the manifold characteristics and properties of the material world. It begins with sensible reflection and passes on to abstract thought. Apart from these two fundamental levels of cognition into which he divides the cognitive process, Rubinštejn also distinguishes four basic operations in cognition: analysis (*analiz*), synthesis (*sintez*), abstraction

(*abstrakcija*) and generalization (*obobščenie*). Knowledge is essentially a reflection of the external world. But this reflection is no passive reception of impressions; it is a vital process by which the subject comes to know the world around him. Analysis, synthesis, abstraction and generalization are the fundamental operations which constitute the cognitive process.

In his treatment of these four cognitive operations, Rubinštejn is primarily concerned with them as the basic elements of the process of thought. However, he also considers that these four operations are also present in an analogous way on the level of sense knowledge.

a. Analysis

Analysis and synthesis together are the most basic elements in cognition.[62] In general analysis is the operation by which the object is broken down into its constituent elements. On the level of empirical knowledge or sensation, analysis consists in the separation (*vydelenie*) of a particular sensible property of the object.[63] This is realized in two ways: by "distinction" (*različenie*) and "differentiation" (*differencirovka*).[64] Both distinction and differentiation are the work of the sense analysers or sense organs. Distinction is the separation of a particular sense property by the corresponding organ (colour by the eye). This property is separated from the complex of properties found in the object because the corresponding organ (e.g. the eye) is by reason of its structure, only capable of receiving and registering a particular type of stimulus (e.g. colour and not sound or taste).

Differentiation follows on distinction. Where distinction merely registers the fact, say, that an object is red, differentiation analyses the signal value of the object, i.e., its significance for practice, e.g., the red of a traffic-light signals that I must stop. Differentiation, therefore, is accomplished through linking of the stimulus with response-activity. Consequently, it already involves an element of synthesis.

On the level of scientific thought analysis is realized in a new form.[65] In keeping with the general function of thought, which is to analyze the summary effect of the interaction of the phenomena of the material world with each other and with the subject, analysis on the level of scientific thought is directed towards the separation of the essential properties of the thing from its inessential or accidental characteristics. It breaks down

the summary effect of the interaction of phenomena into its constituent elements and separates the essential properties from the non-essential.

b. Synthesis

Synthesis is an operation complementary to that of analysis. Where analysis takes the sensible image and breaks it down into its component parts, synthesis reconstructs the image of reality by relating the components to each other. Synthesis, therefore, is "any correlation, comparison, any formation of connections between different elements".[66] Analysis and synthesis form two sides of a single process. Like analysis, synthesis is primarily an element of the thinking process, but Rubinštejn also recognizes a form of synthesis on the level of sensation.

In the first place differentiation, as we have seen, involves an element of synthesis in so far as it determines the signal-value of the sense image by linking it with the response-reaction of the organism. Synthesis is also implied in the notion of perception as presenting a holistic image of the object by uniting the data of the special senses.

On the level of empirical knowledge the unity of analysis and synthesis is most clearly manifested in the process of comparison (*sravnenie*).[67] Comparison is the correlation of two or more phenomena in such a way that common elements are discovered. Comparison is, therefore, an analytic act which is accomplished through synthesis.

On the level of thought, synthesis takes the form of a conceptual reconstruction of the object.[68] In the process of analysis, the chaotic sense image is broken down into its constituent parts, into the properties and relationships which make up the concrete situation. As a result of analysis these properties and relationships are presented in 'pure form', i.e., as isolated from each other, as unconnected. The function of synthesis is to reconstruct the object using those elements which have been isolated in analysis. The object as reconstructed is no longer the chaotic sense image, present before analysis, but an orderly conceptualized image in which the properties are correlated according to their essential relationships. For example, science arrives as the concept of an 'ideal gas' by analyzing the behaviour of particular gases in different situations.[69] The analysis of the relationship between volume and pressure leads to the formulation of the Boyle-Mariotte law, which states that for a given gas the product of pressure is a constant at constant temperature. In this way

a particular property of gases (the relationship between volume and pressure) is analyzed and presented in 'pure form', i.e., abstracting from the influence of temperature on the relationship. The influence of temperature on the behaviour of gases is expressed in the Gay-Lussac law, which states that when a gas is heated at constant volume its pressure increases at a rate which is the same for all gases.

In a similar way each of the properties of a gas can be analyzed and expressed in 'pure form', i.e., in the form of a law which abstracts from other properties. A gas can therefore be defined in terms of a correlation of the various 'gas laws'. This is a synthetic act which correlates the various properties of a gas and presents it as a conceptual construction of these individual properties, expressed in the form of laws. Again, synthesis relates these abstract properties or laws to the concrete situation and shows how they are realized under specific conditions, e.g., how a particular gas obeys the various 'gas laws'.

On the level of thought, the unity of analysis and synthesis is manifested in what Rubinštejn calls the process of analysis through synthesis.[70] Analysis through synthesis is, according to Rubinštejn, the most fundamental form of analysis. In the process of thought the object is incorporated into different systems of connections as a result of which new qualities of the object come to light. Though Rubinštejn does not explicitly relate them, the theory of analysis through synthesis appears as a corollary to the general theory of constitutive relationism discussed in the previous chapter.

c. Abstraction

The close connection between analysis and abstraction is already evident from the treatment of the former in the preceding sections. Analysis inevitably leads to abstraction, for analysis proceeds by abstracting a particular from the totality of properties which constitute the thing or phenomenon. Abstraction has a positive and negative side. It is not only a suppression of certain elements, pushing them into the background, but it is also a drawing out, an emphasizing of one particular property.[71]

An element of abstraction is found in every act of sense knowledge. In perception, e.g., certain properties are highlighted and stand out while others are suppressed and remain in the background. Those elements which come to the fore in perception are the properties which have a

vital significance for the organism. In this way, our perceptions are structured (*modelirovannie*) to meet the needs of practice.[72]

On the level of thought, abstraction is above all the separation of the essential properties of the thing from what is accidental. The abstraction of this or that property no longer depends on the vital needs of the subject, but follows the objective structure of the phenomenon. 'Scientific abstraction is objectively conditioned'.[73]

d. Generalization

Rubinštejn's treatment of the question of generalization is somewhat confused. In different works and in different parts of the same work he gives different accounts of the process of generalization, in one place distinguishing two forms of generalization[74], in others three.[75] A fourth type of generalization is implied by certain passages in *Being and Consciousness*.[76]

As with the other cognitive operations, Rubinštejn distinguishes between generalization as it is found on the level of sense knowledge and as it appears on the level of thought.

In *Being and Consciousness*, Rubinštejn begins by distinguishing between *generalizacija* and *obobščenie*.[77] Both Russian words are translated in English by 'generalization'. One might perhaps use 'universalization' to translate *obobščenie* but the word is cumbersome and the term 'universal', as it is used, say, in scholastic terminology, does not express the Soviet concept of 'general'. We shall, therefore, refer to *generalizacija* and *obobščenie* as generalization in the 'loose sense' and in the 'strict sense' respectively.

Generalization in the loose sense of the word corresponds to the irradiation of excitation which accompanies the formation of a conditioned reflex. To use the example given by Pavlov (and to which Rubinštejn is apparently referring), "if a tactile stimulation of a definite circumscribed area of skin is made into a conditioned stimulus, tactile stimulation of other skin areas will also elicit some conditioned reaction...".[78] In this way, the stimulus is said to be generalized over a wider area of skin. Some form of generalization is necessary on the level of sense knowledge, otherwise the animal would not be able to adapt itself to the changing conditions of its environment. As Pavlov pointed out, "natural stimuli are in most cases not rigidly constant but range around

a particular strength and quality of stimulus in a common group".[79] For example, the cry of a beast of prey provokes a conditioned defence-reflex in the animal it hunts. This defence-reflex is activated independently of the variations in pitch and timbre of the cry of the enemy.

Generalization, in the sense explained above, occurs on the level of the first system of signals. Rubinštejn goes on to say that generalization in the strict sense (*obobščenie*) is necessarily bound up with speech.[80] Consequently, it belongs to the second system of signal and consequently to the level of thought. Rubinštejn, however, distinguishes two forms of strict generalization, what he calls elementary empirical generalization (*élementarnoe émpiričeskoe obobščenie*) and the generalization of theoretical thought.[81]

Empirical generalization is the result of comparison by which the common element in two or more phenomena is discovered. This form of generalization attains the *common* element but not necessarily the *essential* element. It is consequently insufficient to meet the needs of scientific thought which is always directed towards the discovery of essential properties and relationships. This form of generalization remains within the limits of sensation and cannot lead to the formation of abstract concepts.[82] Scientific generalization is generalization in terms of essential properties.

Rubinštejn further complicates the theory of generalization by introducing a number of conflicting distinctions on the level of scientific generalization. In *Principles*[83] he distinguishes two forms of scientific generalization, induction – the passage from one concept to a more general – and generalization through analysis and abstraction. However, in *Being and Consciousness*[84] he seems to consider induction as belonging to the level of empirical generalization, i.e. to the level of *pre*-scientific knowledge. Moreover, in the same book he also introduces a third form of scientific generalization, namely deduction.[85] As an example of deductive generalization he gives the process by which one can deduce from the theorem that the sum of the angles of a triangle is equal to two right-angles the further theorem that the sum of the angles of a polygon with n sides equals $2d(n-2)$.

Despite the confusion in Rubinštejn's thought on the nature of generalization, one can say with certainty that he distinguishes two basic forms of generalization: empirical generalization, which is based on the *common*,

but not necessarily *essential* elements in phenomena, and scientific generalization which is based on the separation of the *essential* common properties.

4. The Problem of Personality

The fact that psychic phenomena belong to a concrete, living man is the starting-point for the psychological study of personality.[86] Psychic phenomena are determined by the characteristics of the individual to whom they belong. This determination, according to Rubinštejn, must be understood in terms of the Marxist-Leninist theory of determinism. Just as mechanism tries to explain the determination of psychic phenomena exclusively by the impulses coming from the outer world, so personalistic psychology tries to explain these phenomena exclusively in terms of the inner characteristics of the individual. According to the Marxist-Leninist theory of determinism both the outer impulses and the inner characteristics concur in the determination of the psychic.

For Soviet psychology, personality is the unified complex of inner conditions through which the outer impulses are refracted.[87] Personality determines psychic phenomena by conditioning or refracting the outer impulses by which such phenomena are primarily determined.[88] What elements go to make up personality?

Rubinštejn is insistent that personality is made up of different levels. It includes not only individual, more or less variable, characteristics acquired in the course of ontogenesis, but also general, more or less stable, characteristics, which have been acquired in the course of phylogenesis and which are common to all men, or to all the members of a particular race.

On the most fundamental level of personality are those characteristics which are common to all men, such as the senses, or the structure of the nervous system. These are the most stable and permanent personal characteristics. Next there are those characteristics which are common to all members of a particular ethnic group, such as the peculiarities of hearing, which are conditioned by the phonetic structure of the native language. These are less stable and only change over the course of centuries. Then there are those characteristics which are the product of social change, such as different needs and motives. Finally, there are the purely individual characteristics which vary in different individuals of the same group

and in the same individual at different times. These are the most variable personal characteristics.

Personality, then, includes both general and individual characteristics. According to Rubinštejn, one must distinguish between the individual characteristics of personality and the personalistic characteristics of the individual.[89] The former are those characteristics which a man acquires in the course of his individual history, the latter are those qualities which make him specifically a person.

Among the multiple characteristics of a man's personality, those appear as most specifically personalistic which condition the socially significant activity of a man. It is these characteristics which make him a person in the true sense of the word. A man is a person through his relationship to society. The person, therefore, is the "unit" (*edinica*) in the system of social relationships. Personality is primarily a *social*, not a psychological concept. However, the concrete personality is the object of psychological investigation both as the subjective context of psychic events and as constituted in large measure by his psychic properties or his consciousness.

E. THE PSYCHIC AS OPPOSED TO THE EXTERNAL WORLD

As already pointed out, the relationship of the psychic to objective reality is, according to Rubinštejn, twofold. It establishes a cognitive and affective connection between the individual and the external world (expressed in the notion of the psychic as reflection) and at the same time, is opposed to the external world as the *ideal* to the *material* and as the *subjective* to the *objective*. The explanation of the basic cognitive operations completes the consideration of the first element in the dual relationship of the psychic to external reality. It only remains to deal briefly with the second element, that of opposition, i.e. to consider the psychic as *ideal* and as *subjective*.

1. The Psychic as Ideal[90]

The short section in *Being and Consciousness* entitled 'The Psychic as Ideal' is one of the most interesting passages in Rubinštejn's works. In a sense it forms the heart of his synthesis, since for Rubinštejn as for Soviet psychology generally, the most difficult problem is to explain what precise meaning the term *ideal* can have in a materialistic system. As commonly used in Soviet philosophical literature, the term ideal is synonymous with

spiritual, that is to say, it signifies the non-material character or quality of psychic phenomena. However, the term ideal has acquired another quite different meaning in the history of philosophy: from Plato down to Husserl and Frege it has been more properly applied to the *content* of knowledge rather than to the cognitive process itself. In this sense it signifies the relative independence of the content *vis-à-vis* the cognitive process. It is precisely with the ideal in this last-mentioned sense that Rubinštejn is primarily concerned. It presents him with a twofold problem: how to reconcile the existence of ideal being with materialistic monism and at the same time avoid psychologism.

According to Rubinštejn, the character of ideal belongs primarily to the product or result of psychic activity, that is to say it is essentially a characteristic of the image or idea.[91] Psychic *activity* can be called ideal only in a secondary or derived sense in so far as it produces the image or idea. In this sense the character of ideal expresses the opposition between the thing as it exists in reality and its representation in the mind of the knower. In what precisely does this opposition consist? In the first place it signifies the inadequacy of the image in relation to the thing it represents.

> The image, the idea (concept, thought) in their epistemological content, cannot be separated from the object, from the thing, from objective reality which exists independently of them. But they are not identical with the object, first, because they never exhaust the endless wealth, the total fulness of its content, and secondly, the primitive, immediate sensibly-given content of the object is changed in the cognitive process.[92]

The second point in the above quotation is interesting since it implies that ideal means more than the mere inadequacy of the image in relation to the thing it represents. Rubinštejn puts it more clearly in another passage:

> The relative separation of the idea from the thing, the content of knowledge from sensibly-given being, is connected with the fact that the ideas are formed in the cognitive activity of the subject (through analysis, synthesis through abstraction and generalization), that is in an activity which changes the primitive sense data in which the objects of reality immediately appear.[93]

This second passage makes it quite clear that the image has a mode of existence different from that of the object in reality. There is little doubt that Rubinštejn is speaking of what would be referred to in Thomistic

philosophy as the *conceptus obiectivus* i.e. the *content* of knowledge and not merely the idea as a psychic formation of process.

In virtue of this new mode of existence the object of knowledge acquires a relative independence both of the material world and of the knower himself. The source of this dual independence Rubinštejn sees in the ability which the idealised content of knowledge has of being objectivized in words and so passing into what he calls the system of socially elaborated knowledge. This system of knowledge constitutes the realm of science which enshrines the knowledge of reality acquired by previous generations. Through incorporation in the realm of science the idea acquires a mode of existence distinct from and independent of both the material object it reflects and the psychic act which produced it.

Rubinštejn, therefore, recognizes the autonomy of the realm of science in relation both to the material world and to the cognitive activity of the knower. It enjoys this autonomy in relation to the material world because in virtue of their ideal mode of existence the objects or ideal contents which compose it are not the objects of material reality. They, of course, reflect the material world, but in altered form, i.e. the primitive sense-data has been transformed in the cognitive activity of the knower, through analysis, synthesis, abstraction and generalization. But the duality which exists between the world of science and the material world is merely relative; it in no way implies the existence of a Platonic world of forms; the basic Marxist-Leninist thesis that the ideal, where ever it is found is always a product and a reflection of the material excludes this from the start. The key then to the origin of the ideal world of science is the cognitive activity of the knower (a material entity) which produces the ideal objects which constitute this world. The ideal only exists through the cognitive activity of the subject which can transform the material sense-data into ideal images.

It will be immediately clear that this solution to the origin and nature of the ideal carries with it the danger of psychologism and this Rubinštejn is equally anxious to avoid. He therefore insists that the realm of science is in a certain sense autonomous in relation to the cognitive activity of the knower. Certainly, the individual knower can and does contribute to the content of science, but as we have seen in an earlier section, the system of science is primarily a social product; it enshrines in ideal form, the knowledge of the world which society has acquired in the course of

history. In relation to the individual knower it is more an *object* than a product of knowledge. But the important point is that, within the system of science, the multiple interconnections of ideas and concepts are independent of the cognitive activity of the subject. According to Rubinštejn, it is the dependence of knowledge on being which is the source of relative autonomy of the content of knowledge in relation to the knowing subject.

However, the dependence of the image or thought on the material world is at the same time mediated through the dependence of the thinking process on the latter. "Thinking (*myšlenie*) mediates the dependence of thought (*mysl'*) on the object and is itself determined by it. As a result, in the cognitive process the 'logic' of being as the object of thought passes over into the structure of thinking (*myšlenie*)."[94] The correspondence between the structure of the content of thought (and of the system of science) and the structure of being is guaranteed by the correspondence between the structure of being and the structure of the cognitive process. Thus for Rubinštejn, being, thinking and thought have, basically at least, the same structure, so that the laws of being are reflected both in psychology and logic; or rather are reflected in logic through psychology. In fact, he states that logical operations such as analysis, synthesis, induction, etc. are cognitive processes "logically expressed" and sees this as an expression of the general thesis of the unity of logic and theory of knowledge.

Are then the laws of being the laws of thought? The answer which Rubinštejn seems to give to this question is somewhat complex. On the one hand it is a law of the dialectic that the laws of being are the laws of thought and it is also certain that, for Rubinštejn, the laws of logic reflect the laws of being. On the other hand, he insists that, in the mind, the objects of reality are transformed through the cognitive activity of the subject and appear in altered form. Consequently, Rubinštejn's position at this point is closer to Aristotle than to Hegel; but is also doubtful whether he can give a consistent Aristotelian solution to the problem of the relation between being and thought. As we saw in an earlier section, Rubinštejn's concept of abstraction is unsatisfactory; though he distinguishes a form of abstraction which separates the essential properties of the object from the inessential, he lacks the idea of a common nature and consequently of the universal. It is only in terms of a common nature which is abstracted from individual material things and which is trans-

formed (universalized) in knowledge that it is possible to give a satisfactory explanation of the origin of logical laws without identifying them with the laws of being.

2. *The Psychic as Subjective*[95]

In its relation to the external world the psychic appears as subjective in contrast to the objectivity of the former.

The notion of 'subjective' is correlative to that of 'objective' and cannot be considered apart from it. Rubinštejn, therefore, prefaces his investigation of the psychic as subjective with a discussion of the notion of objective. He begins by distinguishing two meanings of the word 'objective'. The first sense in which 'objective' is used is to signify that which is *real* as distinct from what is *illusory*. Thus, when we speak of the objective properties of being we mean those properties which being *really* possesses as distinct from those which it *appears* to the subject to possess. The character of objective is further applied to knowledge when it corresponds to reality. In this sense the opposition between 'objective' and 'subjective' as applied to the psychic is the opposition between adequate and inadequate knowledge.[96]

In a certain sense the properties of being are always objective, that is to say that being is what it is, independently of *how* or even *whether* it is known. However, it would be false to equate the notion of 'being' with that of 'objective'. The concept of 'being' is wider than that of 'object' and includes both subject and object. Being only exists as 'object' for a subject. That is to say that being only exists as 'object' in the presence of a subject that knows it. In this second sense the opposition between 'objective' and 'subjective' is the opposition between that which exists 'outside' the subject and independently of it, and that which exists 'within' the knowing subject and in dependence on him.[97]

Consequently, Rubinštejn distinguishes two senses of 'subjective' as applied to the psychic: (1) the more or less inadequate relationship of the psychic to being as its object; (2) the fact that psychic phenomena belong to an individual or a subject. Perceptions, thoughts, feelings, etc. do not exist *as such*. They are always the sensations, thoughts, and feelings of a particular individual. The psychic is subjective in both senses of the word: it always belongs to a subject and is always to some extent inadequate to its object; thought is never a perfect replica of being.[98]

The second form of subjectivity is derived from the first. Knowledge is inadequate because it is conditioned by the characteristics of the subject to which it belongs. This follows from the dialectical-materialist principle of determinism: the determination of knowledge by the object is mediated through the characteristics of the subject. The first and most general characteristic of the subject is the fact that it is active in knowledge; knowledge is not a mere passive reception of images but involves the cognitive activity of the subject. Secondly, knowledge is conditioned by the personal characteristics of the subject.

The recognition of the subjectivity of the psychic, in the senses described above, raises the problem of the objectivity of knowledge. If the determination of knowledge by its object is mediated or refracted by the cognitive activity of the subject and by his personal characteristics, his motives, his past formation, and his internal states generally, does it not follow that, what is known is not the thing as it exists in reality, but as transformed and reconstructed by the subject?

As already remarked, Rubinštejn insists strongly both on the active role of the subject in cognition and on the influence of the personal characteristics of the subject on knowledge. As to cognitive activity, Rubinštejn clearly recognizes that cognition involves a significant element of reconstruction. This is evident from his analysis of the thinking process. On the level of thought synthesis consists in the conceptual "reconstruction" (*vosstanovlenie*) of the object. In *Principles* he writes:

> Every act by which an object is reflected through the subject, which occurs through analysis and synthesis, abstraction and generalization, is necessarily not a mechanical reproduction of the object but rather a more or less ideal – sensible or intellectual – transformation of the object.[99]

The details of this conceptual reconstruction have already been explained in an earlier section. The important thing to note at this point is that, for Rubinštejn, the active role of the subject in knowledge and the consequent modification of the influence of the external reality on the knower, is not an obstacle to the objectivity of knowledge but rather guarantees it. In Rubinštejn's view, any attempt to make knowledge immediately dependent on the object and so by-pass the cognitive activity of the subject, eliminates the possibility of objective knowledge. Unless the cognitive activity of the knower is taken into account, that which is known is no

longer the thing as it exists in reality, but merely its *effect* on the knower.

The 'causal theory' of perception[100] which, according to Rubinštejn, is the application of the mechanical theory of determinism to epistemology, states that sensation is the result of the mechanical action of the things and phenomena of the external world on the senses. According to this theory, the senses are purely passive in the reception of the impressions coming from the outside world. But, Rubinštejn argues, if the senses merely register the effect of the action coming from without, it follows that we do not know the objects in themselves, but only their effect on us. In other words, the immediate object of knowledge is not the thing as it exists in reality, but the modifications it produces in us. This same argument Rubinštejn points out, has been used by Berkeley and Russell in defence of the 'sense-data' theory, according to which the immediate object of knowledge is sense impressions or sense-data.

Apart from affirming the active role of the subject in cognition, Rubinštejn readily admits that certain aspects of our knowledge are the direct result of the interaction of subject and object. Such, e.g., are the so-called secondary sense qualities. Rubinštejn sees the debate on the subjectivity or objectivity of the secondary sense qualities – colour, taste, smell, etc. – as based on a false antithesis.[101] The problem, he says, is usually formulated as follows: either these qualities only exist in the subject, in which case they are subjective, or else they are objective qualities of the thing and exist in it independently of the knower.

According to Rubinštejn, these qualities only exist "correlative to the subject", but they are nonetheless objective. Taking the example of colour, he says that in reality all that exists are light waves and the ability of the object to reflect them in a certain way. These light waves only appear as colour when they strike the eye. That is to say, colour as such only exists in the course of the interaction of the knower and the object. But, he argues, if we admit that properties which arise through the interaction of the things and phenomena of the outer world are objective, then there is no reason for not admitting that those qualities which arise in the interaction between the object and the subject are equally objective. Moreover, the subject itself belongs to the material world. It is a general law of the interaction of phenomena that whenever a new form of matter appears it causes new properties in the other forms of matter with which it interacts.[102]

Considering the elements of subjectivity which come from the inner states of the individual, (e.g. the sensation of heat depends not only on the actual temperature of the object but on the internal state of the subject), it is the role of scientific thought to distinguish the actual heat of the object from the subjective mode of its sensation. This is possible because "the subjectivity of perception is itself objective"[103], that is to say, subjectivity is governed by *objective* laws. Once these laws have been discovered it is possible to distinguish between the real 'objective' properties of the thing and the 'subjective' mode of its perception. Thus, e.g., the true dimensions of a body, as distinct from its apparent dimensions as they appear in perception, can be ascertained on the basis of changes in size of the image which follows the laws of perspective. In short, subjectivity is a form (*forma projavlenija*) of objectivity. It is not a mysterious, indeterminate phenomenon but obeys objective laws similar to those which govern objective reality.

F. CONCLUSION AND CRITIQUE: PSYCHIC PHENOMENA AS IDEAL REFLECTION

Those familiar with the works of S. L. Rubinštejn, particularly with *Being and Consciousness* will realize that the organization of the material in this chapter differs somewhat from that adopted by Rubinštejn himself. Some of the problems treated under the heading of the psychic and the external world as, e.g., the problem of personality and the problem of the basic mode of existence of the psychic, are dealt with in different contexts in Rubinštejn's own works. Since we have been more concerned with interpreting his thought than with giving a paraphrase and commentary we have felt that the decision not to follow the precise order of the author's works has been justified. The general division of psychic phenomena into its ontological and epistemological aspects is basic to the later Rubinštejn, as indeed it is to most Soviet works on the nature of psychic events since 1950. Moreover, this general division is quite explicit in *Being and Consciousness*, where Chapter Two deals with the psychic in relation to external reality and Chapter Three with its relation to the brain. The decision to organize all of Rubinštejn's thought under one or other of these rubrics (and indeed to omit a number of problems treated by Rubinštejn) has been taken in order to better emphasize the basic structure

of his thought, which sees psychic phenomena as defined by the twofold relation to the material world. In relation to the outer material world psychic phenomena are defined as 'ideal reflection'.

The definition of psychic in terms of reflection immediately poses a serious problem, namely: is the term 'reflection' an adequate description of such phenomena as feeling, desire, willing, need, etc.? This problem, moreover, calls into question the validity of Rubinštejn's division of the psychic into its ontological and epistemological aspects and in fact seems to point to a fundamental defect in his synthesis. One can obviously speak of the ontological aspect of emotional and volitional events, that is to say these events considered in relation to the organism where, according to Rubinštejn's division they appear as physiological processes. However, when we come to examine their relationship to the external world it seems that we are hardly justified in calling it 'epistemological'. Phenomena such as needs, desires, interest, etc., while they are closely connected with cognition are not themselves cognitive; they constitute a specific group of psychic phenomena normally referred to as affective or orectic.

At least one Soviet writer has drawn attention to Rubinštejn's tendency to identify the psychic with cognition, quoting the latter's statement that "the epistemological relation of the object determines the basic ontological character of the psychic".[104] This criticism is not unfounded; certainly in his later works Rubinštejn does concentrate on the cognitive side of psychic events to the neglect of the affective. But it would be incorrect to accuse him of entirely neglecting the affective side of man's nature; still less is it true to say that he identifies 'psychic' with 'epistemological'. In a number of places Rubinštejn explicitly refers to the emotional and volitional side of psychic processes. In *Being and Consciousness*, e.g., he writes:

> Every psychic process has an epistemological side which, however, does not exhaust it. As a rule, the object reflected in psychic phenomena touches the needs and interests of the individual and arouses in him a definite emotional and volitive relationship (striving, feeling) to it. Every concrete psychic act, every real 'unit' of consciousness includes two components – the intellectual or cognitive and the affective. ... But it is in the cognitive side of the psychic process that the connection between psychic phenomena and the outer world is especially expressed.[105]

Elsewhere, as we have already seen in an earlier section of this chapter,

Rubinštejn explains how this emotional or volitive relationship can be called a reflection of external reality. The objects and phenomena of the external world are reflected in the subject not only in the form of 'graphic images' but also as 'relationships'. These relationships – our needs, interests, feelings, desires, etc. – have been formed by the action on us of the outer world and so can be said to reflect it. By extension these relationships might also be called images, but even here Rubinštejn's excessively 'epistemological' treatment of psychic phenomena vary much in evidence.[106]

The problem becomes more complex when we come to consider the other characteristics which psychic phenomena are said to acquire in relation to the external world, namely, that of being subjective and ideal. The first of these poses no serious problem since affective and volitive phenomena can obviously be called subjective. But it is impossible to see how the term 'ideal' can be meaningfully applied to these phenomena in any of the senses given to it by Rubinštejn.

In short, the division of the psychic into its ontological and epistemological aspects must be judged inadequate and seems to indicate a defect both in Rubinštejn's system and in the general conception of psychic phenomena current in contemporary Soviet philosophy.

REFERENCES

[1] "... nado obratit'sja k konkretnomu izučeniju psixičeskix javlenij, vzjat' ix vo vsex suščestvennyx svjazjax, vyjavit' raznye ix xarakteristiki i sootnesti éti xarakteristiki v sootvestvii s ob"ektivnoj logikoj tex svjazej i otnošenij, v kotoryx každaja iz ix vystupaet. Takov otpravnoj punkt podlinno naučnogo issledovanija, edinstvenno vozmožnyj dlja togo, čtoby preodolet' različnye 'točki zrenija' proizvot'nye v svoej odnostoronnosti." Rubinštejn, *Bytie i soznanie*, p. 4. Cf. also *ibid.*, pp. 5f; *Principy*, p. 9.

[2] "Psixičeskaja dejatel'nost' – éto dejatel'nost' mozga, javljajuščajasja vmeste s tem otraženiem, poznaniem mira; odin i te že psixičeskie javlenija vsegda vystupajut i v tom i v drugom kačestve. Dva voprosa – različnye i daže kak budto raznorodnye: odin – gnoseologičeskij – o poznavatel'nom otnošenii psixičeskix javlenij k ob"ektivnoj real'nosti, i drugoj – estestvennonaučnyj – o svjazi psixičeskogo s mozgom, – vzaimosvjazany nastol'ko čto, rešiv opredelennym obrazom odin iz nix, nel'zja uže rešit inače, čem sootvetstvennym, strogo opredelinnym obrazom, i drugoj." (Psychic activity is cerebral activity and at the same time reflection, knowledge of the world; one and the same psychic phenomenon always appears in the one and the other quality. The two questions are different and apparently heterogeneous: one belongs to the realm of epistemology and concerns the cognitive relationship of psychic phenomena to objective reality; the other belongs to that of natural science and concerns the connection of the psychic to the brain. But they are so interconnected that one cannot be answered

in a particular way without answering the other in a way which strictly corresponds to the answer given to the first.) Rubinštejn, *Bytie i soznanie*, pp. 4f.

[3] Cf. Rubinštejn, *Principy*, p. 9.

[4] Cf. Rubinštejn, *Bytie i soznanie*, p. 6.

[5] "V gnoseologičeskom otnošenii psixičeskix javlenij k ix ob"ektu vystupaet protivopoložnost' sub"ektivnogo i ob" ektivnogo, suščestvennaja v gnoseologičeskom plane. Odnako dlja togo, čtoby podčerkivanie étoj protivopoložnosti ne privelo k dualizmu, neobxodimo raskryt' i to edinstvo, v ramkax kotorogo ona raskryvaetsja. Poétomu važno podčerknut' ne tol'ko protivopoložnost', no i isxodnoe edinstvo oščuščenij, myslej, soznanija i ob"ektivnoj real'nosti, otraženiem, osoznaniem kotorogo oni javljajutsja." (The opposition of objective and subjective is an essential characteristic of the epistemological relationship of psychic phenomena to their object. But, lest the insistence on this opposition lead to dualism it is necessary to focus attention on the unity within which this opposition is realized. Therefore, one must not only emphasize the opposition but also the basic unity between sensation, thought and consciousness on the one hand, and objective reality on the other, of which [objective reality] the former are a reflection and an apprehension.) *Ibid.*, p. 37.

[6] Rubinštejn, 'Predmet, zadači i metodi psixologii' [The Object, Tasks and Methods of Psychology], *Psixologija* [Psychology], Učebnik pedagogičeskix institutov pod red. A. A. Smirnov, A. Leontev, S. L. Rubinštejn i B. M. Teplov, M. 1956, p. 10 (henceforward: Rubinštejn, *Psixologija*).

[7] Cf. Rubinštejn, *Bytie i soznanie*, p. 287.

[8] Cf. *Ibid.*, p. 37.

[9] Cf. *Ibid.*, pp. 266, 274.

[10] "Dlja dialektiko-materialističeskoj teorii otraženija isxodnym javljaetsja vzaimodejstvie čeloveka kak sub"ekta s mirom. ..." *Ibid.*, p. 40.

[11] *Ibid.*, p. 101.

[12] Rubinštejn, *Principy*, p. 22.

[13] Rubinštejn, *Bytie i soznanie*, pp. 109, 119.

[14] Rubinštejn, *Principy*, p. 21.

[15] Rubinštejn, *Bytie i soznanie*, p. 108.

[16] "Rešaja svoj osnovnoj – samyj prostoj i vmeste s tem samyj fundamental'nyj – staryj sokratovskij vopros *ti esti* (čto éto est'?), podxvačennyj i uglublennyj Aristotelem, naučnoe myšlenie vydeljaet imenno éti vnutrennie, sobstvennye, suščestvennye svojstva javlenija." (In fulfilling its basic task, which is to answer the ancient Socratic question *ti esti* – at once the simplest and most fundamental question – which Aristotle took over and made more penetrating, scientific thought uncovers the inner, specific, essential properties of a phenomenon.) *Ibid.*, p. 130.

[17] "Myšlenie v podlinom smysle slova – éto proniknovenie v novye sloi suščego, vzryvanie i podnimanie na belyj svet čego-to, do togo skrytogo v nevedomyx glubinax; postanovka i razrešenie problem bytija i žizni; poiski i naxoždenie otveta na vopros: kak ono est' v dejstvitel'nosti – nužnogo dlja togo, čtoby znat', kak verno žit', čto delat'." Rubinštejn, *Principy*, p. 53.

[18] "Na vopros o tom, čto predstavljaet soboj poznanie, teorija otraženija dialektičeskogo materializma otvečaet tak: poznanie éto otraženie mira kak ob"ektivnoj real'nosti. Oščuščenie, vosprijatie, soznanie est' *obraz* vnešnego mira." (To the question, what is knowledge?, the dialectical-materialist theory of reflection answers: knowledge is a reflection of the world as objective reality. Sensation, perception, consciousness are an *image* of the outer world.) Rubinštejn, *Bytie i soznanie*, p. 31.

[19] *Ibid.*, pp. 31–34.
[20] *Ibid.*, p. 37.
[21] *Ibid.*, p. 38.
[22] "... obraz vešči – éto ideal'naja, t.e. otražennaja v sub"ekte, v ego mozgu, *forma otražennogo suščestvovannija vešči*. Soderžanie étoj formuly takovo: éto značit, *čto obraz vešči – ne sama vešč' i vmeste s tem ne znak vešči, a ee otraženie*." *Ibid.*, p. 36.
[23] *Ibid.*, pp. 255–261.
[24] *Ibid.*, p. 261.
[25] "Vsjakoe psixičeskoe obrazovanie (čuvstvennyj obraz vešči, čuvstvo i.t.d.) – éto, po suščestvu, psixičeskij process v ego rezul'tativnom vyraženii." (Every psychic formation (a sense image of the thing, sensation, etc.) is essentially the psychic process in its resultant expression.) *Ibid.*, p. 263.
[26] *Ibid.*, pp. 256ff.
[27] "Psixologija ... éto nauka, vskryvajuščaja zakonomernosti osuščestvljaemoj mozgom psixičeskoj dejatel'nosti čeloveka." Rubinštejn, *Principy*, p. 28.
[28] "Pod psixičeskim kak dejatel'nost'ju my razumeem psixičeskij process ili sovokupnost' processov, kotorye udovletvorjajut kakoj-libo žiznennoj potrebnosti čeloveka i napravleny na cel', bolee ili menee neposredstvenno svjavannuju s udovletvoreniem étoj potrebnosti." *Ibid.*, p. 37.
[29] Rubinštejn, *Bytie i soznanie*, p. 257.
[30] "Psixičeskoj ona javljaetsja tol'ko po svoemu processual'nomu i motivacionnomu sostavu, a ne po zadačam, kotorye ona kak dejatel'nost' razrešaet." (It only appears as psychic from the point of view of its processional and motivational composition, and not from the point of view of the tasks which it fulfills as activity.) *Ibid.*, p. 257.
[31] *Ibid.*, p. 263.
[32] Cf. Rubinštejn, *Bytie i soznanie*, pp. 47–48, 214–215; *Principy*, pp. 28, 57.
[33] Rubinštejn, *Psixologija*, p. 10.
[34] Rubinštejn, *Bytie i soznanie*, p. 70.
[35] *Ibid.*
[36] *Ibid.*
[37] *Ibid.*
[38] *Ibid.*, p. 72.
[39] "Načal'nym momentom otraženija dejstvitel'nosti javljajutsja *oščuščenija*. Oni predstavljajut soboj otraženie otdel'nyx svojstv predmetov i javlenij material'nogo mira, dejstvujuščix neposredstvenno na organy čuvstv (oščuščenie, cveta, zvuka, zapaxa i.t.d.). V *vosprijatii* i javlenija otražajutsja uže v mnogoobrazii svoix svojstv. Rassmatrivaja predmet, my vidim ne prosto ego cvet, formu i veličinu otdel'no drug ot druga, a vosprinimaem ego kak celoe (dom, stol, karandaš i.t.d.). Rubinštejn, *Psixologija*, p. 10.
[40] Rubinštejn, *Bytie i soznanie*, pp. 72ff.
[41] *Ibid.*, p. 74.
[42] *Ibid.*, p. 75.
[43] "Dlja fiziologii dejstvitel'nost' vystupaet kak sovokupnost' *razdražitelej*, vozdejstvujuščix na mozg, na analizatory; dlja psixologii – v kačestve ob"ektov poznanija i dejstvija, ob"ektov, s kotorymi vzaimodejstvuet čelovek kak sub"ekt." (For physiology, reality appears as a collection of *stimuli* acting on the brain and on the analysers; for psychology, it appears in the quality of objects of knowledge and activity, objects with which man interacts as a subject.) Rubinštejn, *Principy*, p. 26.
[44] "Psixičeskie javlenija voznikajut imenno togda, kogda v xode reflektornoj dejatel'-

nosti mozga (v processe differencirovki razdražitelej) pojavljajutsja oščuščenija, i otraženny v nix razdražitel' vystupaet v kačestve ob"ekta." Rubinštejn, *Bytie i soznanie*, p. 6.

[45] "S vozniknoveniem v xode reflektornoj dejatel'nosti oščuščenij, psixičeskix javlenij voznikaet i poznavatel'no otnošenie k ob"ektivnoj real'nosti." Rubinštejn, *Principy*, p. 14.

[46] Rubinštejn, *Bytie i soznanie*, pp. 106–108.

[47] *Ibid.*, p. 106.

[48] *Ibid.*, p. 127.

[49] *Ibid.*, p. 108.

[50] "Myšlenie v sobstvennom smysle slova bez jazyka *nevozmožno*. Abstraktnoe myšlenie – éto *jazykovoe, slovesnoe* myšlenie." *Ibid.*, p. 162.

[51] Rubinštejn, *Bytie i soznanie*, pp. 162–171; *Principy*, pp. 102–114.

[52] F. de Saussure, *Cours de linguistique générale*, Paris 1922.

[53] Rubinštejn, *Bytie i soznanie*, p. 158.

[54] *Ibid.*, p. 170.

[55] *Ibid.*, p. 166.

[56] *Ibid.*, p. 165.

[57] *Ibid.*, p. 162; *Principy*, p. 102.

[58] *Ibid.*

[59] "Govorja o processe poznanija, nel'zja, očevidno, ograničit'sja tol'ko processom individual'nogo poznanija, poznanija mira individom, nužno imet' v vidu i process istoričeskogo razvitija znanija; samyj process poznanija mira individom oposredstvovan razvitiem poznanija mira čelovečestvom, istoričeskim razvitiem naučnogo znanija, kak, s drugoj storony, process istoričeskogo razvitija naučnogo znanija oposredstvovan poznavatel'noj dejatel'nost'ju individov." (When speaking of the process of knowledge, it is obvious that it cannot be limited to the process of individual knowledge, the individual's knowledge of the world. One must also consider the process of the historical development of knowledge; the process by which the individual comes to know the world is mediated by the development of mankind's knowledge of the world, by the historical development of scientific knowledge, just as, on the other hand, the process of the historical development of scientific thought is mediated by the cognitive activity of individuals.) Rubinštejn, *Bytie i soznanie*, p. 53.

[60] "Specifika čelovečeskogo myšlenija vyražaetsja pri étom v tom, čto ono javljaetsja vzaimodejstviem myšljaščego čeloveka ne tol'ko s neposredstveno čuvstvenno vosprinimaemoj dejsvitel'nost'ju, no i s ob"ektivirovannoj v slove obščestvenno vyrabotannoj sistemoj znanij, obščeniem čeloveka s čelovečestvom." (The specific character of human thought is revealed by the fact that it is not only an interaction of the thinker with immediately perceptible sensible reality, but also with the socially created system of knowledge objectivized in the word, that it is a communication of the individual with mankind.) Rubinštejn, *Principy*, p. 52.

[61] "... v myšlenii individa nepreryvno funkcionirujut produkty obščestvenno-istoričeskogo razvitija naučnogo znanija, individual'noe myšlenie čeloveka est' v étom smysle po svoemu vnutrennemu soderžaniju obščestvenno obuslovlennyj process." (In the thinking of the individual, products of the socio-historical development of scientific thought function uninterruptedly; in this sense the individual thought of a man is, in its inner content, a socially conditioned process.) *Ibid.*, p. 82.

[62] Rubinštejn, *Bytie i soznanie*, p. 135: *O myšlenii*, p. 30.

[63] Rubinštejn, *O myšlenii*, p. 33.

[64] Rubinštejn, *Bytie i soznanie*, p. 137.
[65] *Ibid.*, p. 138.
[66] *Ibid.*, p. 137.
[67] *Ibid.*
[68] *Ibid.*, p. 138.
[69] *Ibid.*, pp. 107ff.
[70] Rubinštejn, *Principy*, pp. 70ff.
[71] Rubinštejn, *Bytie i soznanie*, p. 139.
[72] *Ibid.*
[73] *Ibid.*, p. 140.
[74] Rubinštejn, *Principy*, p. 89.
[75] Rubinštejn, *Bytie i soznanie*, p. 105.
[76] *Ibid.*, pp. 104–105, 140.
[77] *Ibid.*, p. 140.
[78] Pavlov-Anrep, *Conditioned Reflexes*, New York 1960, p. 113.
[79] *Ibid.*
[80] Rubinštejn, *Bytie i soznanie*, p. 140.
[81] *Ibid.*, p. 141; *Principy*, p. 89.
[82] Rubinštejn, *Bytie i soznanie*, pp. 141–142.
[83] Rubinštejn, *Principy*, p. 89.
[84] Rubinštejn, *Bytie i soznanie*, p. 150.
[85] *Ibid.*
[86] *Ibid.*, p. 307–316; *Principy*, pp. 116–137.
[87] "*Pri ob"jasnenii ljubyx psixičeskix javlenij ličnost' vystupaet kak voedino svjaznannaja sovokypnost' vnutrennix uslovij čerez kotorye prelomljajutsja vse vnešnie vozdejstvija.*" (In the explanation of any psychic phenomena, personality appears as the unified collection of inner conditions through which all outer impulses are refracted.) Rubinštejn, *Bytie i soznanie*, p. 308.
[88] *Ibid.*
[89] "Individual'nye svojstva ličnosti – éto ne odno i te že, čto ličnostnye svojstva individa, t.e. svojstva, xarakterizujuščie ego kak ličnost'." (The individual properties of the personality are not the same thing as the personalistic properties of the individual, i.e., those properties which characterize him as a personality.) Rubinštejn, *Bytie i soznanie*, p. 309; *Principy*, p. 119.
[90] *Ibid.*, pp. 41–54.
[91] *Ibid.*, p. 41.
[92] "Obraz, ideja (ponjatie, myšl'), ne obosobimye v svoem gnoseologičeskom soderžanii ot predmeta, vešči, ot ob"ektivnoj real'nosti, suščestvujuščej nezavisimo ot nix, vmeste s tem ne sovpadajut neposredstvenno so svoim predmetom vo-pervyx potomu, čto oni nikogda ne isčerpyvajut vsego beskonečnogo bogatstva, vsej polnoty soderžanija predmeta, i, vo-vtoryx, potomu, čto isxodnoe, neposredstvenno, čuvstvenno dannoe soderžanie ego preobrazuetsja v processe poznanija, ..." *Ibid.*, p. 42.
[93] "Otnositel'noe obosoblenie idej ot veščej, soderžanija znanija – ot čuvstvenno dannogo bytija svjazano s tem, čto idei, znanija formirujutsja v rezul'tate poznavatel'noj dejatel'nosti sub"ekta, putem analiza i sinteza, abstrakcii i obobščenija, preobrazujuščix isxodnye émpiričeskie dannye, v kotovyx neposredstvenno vystupajut vešči i javlenija dejstvitel'nosti... ." *Ibid.*, pp. 42–43.
[94] *Ibid.*, p. 49.
[95] *Ibid.*, pp. 54–70.

[96] *Ibid.*, p. 56.
[97] *Ibid.*
[98] Cf. reference 92.
[99] "Každij akt otraženii ob"ekta sub"ektom, osuščestvljajuščijsja posredstvom analiza i sinteza, abstrakcii i generalizacii neobxodimo predstavljaet soboj ne mexaničeskoe vosproizvedenie ob"ekta, a bolee ili menee značitel'noe ego ideal'noe – čuvstvenno, myšlennoe – preobrazovanie." Rubinštejn, *Principy*, p. 38.
[100] Rubinštejn, *Bytie i soznanie*, pp. 84ff.
[101] *Ibid.*, pp. 58–60.
[102] "V silu vseobščej vzaimosvjazi vsex javlenij mira pojavlenie novyx form materii, v častnosti, organičeskoj materii (organizmov), vyzyvalo novye projavlenija vsex drugix form bytija, s kotorymi éti novye formy vstupali vo vzaimodejstvie." (By reason of the general interconnection of the phenomena of the world, the appearance of a new form of matter, in particular of organic matter (organisms) has called forth new properties in all the other forms of being, with which these new forms interacted.) *Ibid.*, p. 60.
[103] *Ibid.*, pp. 62–63.
[104] *Ibid.*, p. 64.
[105] D. D. Vasilev. Cf. *Filosofskie voprosy fiziologii vysšej nervnoj dejatel'nosti i psixologii*, Moscow 1963, p. 674.
[106] "Vsjakij psixičeskij process imeet poznavatel'nuju storonu, kotoraja, odnako, ne isčerpyvaet ego. Ob"ekt, otražaemyj v psixičeskix javlenijax, kak pravilo, zatragivaet potrebnosti, interesy individa i v silu etogo vyzyvaet y nego opredelennoe émocional'no – volevoe otnošenie (stremlenie, čuvstvo). Vsjakij konkretnij psixičeskij akt podlinnaja 'edinica' soznanija vključaet oba komponenta – i intellektual'nyj, ili poznavatel'nyj, i affektivnyj. ... Odnako imenno v poznavatel'noj storone psixičeskogo processa osobenno rel'efno vystupaet svjaz' psixičeskix javlenij s ob"ektivnym mirom." Rubinštejn, *Bytie i soznanie*, pp. 6f.

CHAPTER VI

PSYCHIC ACTIVITY AND THE BRAIN

A. INTRODUCTION

Having dealt with the psychic in its relationship to the external material world, it only remains to discuss briefly the second question posed at the end of Chapter IV: that of the relationship of the psychic to the brain. The second aspect of the relationship of the psychic to the material world, i.e., to the inner matter of the brain, is called by Rubinštejn, the "ontological" or "natural-science" aspect.[1] In relation to the brain the psychic appears as a function of that organ or as higher nervous activity.

A large part of Rubinštejn's treatment of the 'ontological' aspect of psychic phenomena is taken up with an explanation of the theories of Sečenov and Pavlov, with occasional reference to the investigations of recent Soviet physiologists. The main points of the teaching of Pavlov and Sečenov on the reflex activity of the brain have already been summarized in Chapter I and need not delay us here. Again, no detailed analysis of Rubinštejn's treatment of purely physiological questions – such as the role of the orientation reflex in sensation – will be undertaken as such problems lie outside the scope of this thesis. We are further justified in not considering these problems as they occupy a relatively unimportant place in Rubinštejn's works. It is, however, interesting to note that Rubinštejn devotes far more attention to the epistemological function of the psychic than to the so-called 'ontological' aspect.

In discussing the relationship of the psychic to the brain Rubinštejn is primarily concerned with the problem of the relationship between psychic phenomena and higher nervous activity, and it is with this problem that we shall principally deal in the present chapter. The main points of Rubinštejn's thought on this question have already been touched on in different contexts, particularly in Chapters III and IV. In this chapter we shall summarize what we have already said and, by adding some new elements not yet considered, attempt to give an over-all account of Rubinštejn's thought on this question.

B. THE PSYCHIC AS A FUNCTION OF THE BRAIN

That psychic phenomena are intimately connected with the brain is, for Rubinštejn, beyond doubt. "The problem", he writes in *Being and Consciousness*, "is not *is* there such a connection – that is incontestible – but rather what is the nature of that connection, how is the psychic connected with the brain and what are the specific notes of the connection".[2] Furthermore, it is also beyond doubt, for Rubinštejn, that the psychic is a function of the brain. In the same work he states: "Psychic phenomena arise and exist only as a function or activity of the brain. Its existence as a process or activity, namely an activity of the brain, is the primary mode of existence of the psychic".[3] Psychic activity is, therefore, the activity of a material organ.[4]

As a general rule Rubinštejn presupposes, without any attempt at proof, that psychic phenomena are simply a function of the brain. This idea is, of course, found in the 'Classics', particularly in the works of Engels and Lenin, and Rubinštejn accepts it uncritically. However, in the text-book *Psychology* Rubinštejn attempts to argue to the fact that the psychic is a function of the brain from the fact of disturbances of the psychic functions which accompany pathological states of the brain.[5]

It can be shown that damage to certain areas of the brain or other pathological conditions will cause disturbances in psychic functions such as speech, vision, voluntary movement, etc. Moreover, if the damage is repaired and the normal functioning of the brain restored, the above-mentioned psychic disturbances disappear. These facts, according to Rubinštejn, prove "conclusively" (*so vsej opredelennost'ju*) that "psychic activity is inseparably connected with the brain, that the brain is the organ of thought, and that thought is a function of the brain, its product".[6]

The argument advanced by Rubinštejn is hardly original. He is merely repeating an argument frequently found in the writings of the 18th- and 19th-century materialists. The close connection between psychic and physiological events in man has long been observed and can be fully accounted for by philosophical systems other than materialism. The data to which Rubinštejn appeals only demonstrate that there is a close connection between the brain and the psychic but tell us little or nothing about the nature of this connection. How we conceive of this connection

depends primarily on the prior notions we have of the psychic and the material. Rubinštejn's conclusion that these facts prove *conclusively* that "the brain is the organ of thought, and that thought is a function of the brain, its product", is, therefore, unjustified.[7]

The argument which Rubinštejn puts forward has so often been proposed and rebutted that we need not delay with it. The only point which we wish to make here is that Rubinštejn is content for the most part to accept uncritically the thesis of the 'Classics' that thought or the psychic is a function of the brain and that the only 'proof' he educes in defence of this thesis is the common materialist argument which points to the close connection between psychic events and the brain. For Rubinštejn the chief problem is not to prove that the psychic is a function of the brain but to determine how it is a function.

C. THE PRINCIPLE OF PSYCHO-PHYSICAL UNITY

As already mentioned in Chapter IV, Rubinštejn does not consider the problem of the relation of psychic and brain at any great length in his earlier works. In the works written before 1950, Rubinštejn is content, for the most part, to repeat the formula of the 'Classics' that the psychic is a function of the brain. The most protracted treatment of the problem is to be found in *Fundamentals*, but even here he only devotes 5 pages[8] out of a total of more than 700 to its consideration.

In *Fundamentals* Rubinštejn seeks a solution to the problem of the relation of psychic phenomena to the brain on the basis of the principle of psycho-physical unity. It should be noted at the outset that this principle does not only refer to the relation of the psychic to the brain but governs the general relationship of the psychic to the material world. In other words, it includes both the relationship of the psychic to the outer material world of which it is a reflection, as well as its relation to the inner matter of the brain of which the psychic is a function. Rubinštejn calls the principle of psycho-physical unity "the most important principle of Soviet psychology".[9]

The principle of psycho-physical unity is intended by Rubinštejn to express the dependence of the psychic on the material and at the same time its irreducibility. As applied to the relation of the psychic to the brain, it expresses the 'organic-functional' dependence of the psychic on

that organ. In the light of this principle, psychic and brain are related as function and structure, the brain and nervous system being the 'material substrate' of the psychic. This, however, is just another way of saying that the psychic is a function of the brain, but the point to note is that Rubinštejn here apparently relates the psychic *immediately* to the brain.

Particularly in view of Rubinštejn's later theories, the question arises: How did Rubinštejn conceive of the relation between psychic phenomena and the physiological activity of the brain, in his earlier works? This question cannot be answered with any degree of certainty, but certain statements in *Fundamentals* suggest that he considered them as two series of activities. In the short section in *Fundamentals*[10] which he devotes to Pavlov's theories he writes:

> By his teaching on conditioned reflexes Pavlov became the first to institute a genuine physiology of the cerebral hemispheres, the highest section of the central nervous system, of which the psychic is the specific function.[11]

In the same section he speaks of the conditioned reflex as the "physiological basis" of psychic activity. This last statement would seem to modify slightly the impression given in the earlier part of *Fundamentals* that Rubinštejn considered that psychic activity is related immediately to the brain. It would rather seem in the light of the last remark, that the conditioned reflex or higher nervous activity is the physiological basis of the psychic and that psychic activity is related *immediately* to higher nervous activity but only *mediately* to the brain.

The point at issue is whether psychic activity and higher nervous activity form two parallel series of process, each related immediately to the anatomical structure of the brain, or whether they are related hierarchically in such a way that psychic activity is related immediately to higher nervous activity and only mediately to the brain. As already mentioned, Rubinštejn did not give the problem of the relation of the psychic to the brain very careful consideration in his earlier works. However, it does seem clear from what has been said that he considered psychic activity and higher nervous activity as two distinct series of events, but it is not clear whether he considered them as hierarchically related or as two parallel series.

D. THE PSYCHIC AS HIGHER NERVOUS ACTIVITY

1. Development of Rubinštejn's Thought

In the aftermath of the Pavlov Conference, Rubinštejn was forced, apparently for the first time, to consider closely the relationship between psychic phenomena and the brain. As he himself pointed out in his speech at the Conference, the application of Pavlov's teaching to psychology required a new treatment of the problem 'brain and psyche', and the principle 'the psychic is a function of the brain' took on a new significance in the light of Pavlov's theory of higher nervous activity.[12]

In Chapter II we described the variety of theories advanced by Soviet psychologists to explain the relation between psychic phenomena and higher nervous activity. Unlike many of his colleagues, Rubinštejn did not rush forward with a definite theory but slowly developed his ideas over the years. It is possible to trace the development of Rubinštejn's thought in the articles and books written between 1950 and 1957. Rubinštejn's theories on the relationship of the psychic phenomena to the brain were not fully elaborated until the publication of *Being and Consciousness* in 1957.

In his address to the Pavlov Conference, Rubinštejn exercised considerable caution when discussing the problem of the relationship between psychic activity and higher nervous activity. For the most part he confines himself to general statements on the significance of Pavlov's teaching as providing the natural-science basis for materialist psychology. However, he does state that the material substratum of psychic phenomena is not the anatomical structure of the brain but the material, physiological activity of that organ.[13] The most important conclusion which Rubinštejn draws, at this point, from Pavlov's teaching is the theory of dynamic localization, namely, that psychic phenomena are related immediately, not to a definite anatomical zone in the brain, but to its neurophysiological processes.

In the '*Perestrojka*' article written two years later, Rubinštejn seems to suggest, for the first time, that psychic activity and higher nervous activity form a single process. In this article, as we have seen (Chapters III and IV), Rubinštejn rejects his earlier theory of psycho-physical unity – which he considered tended to separate the psychic from the physiological – in

favour of the theory of materialistic monism. It is impossible, he argues, to separate the psychic "from the brain and its material activity" because psychic activity is "basically nervous activity".[14] Moreover, he goes on to state that "the laws of higher nervous activity and the competence of the teaching on higher nervous activity extend, without exception, to all the activity of the brain. There is not, nor can there be, any part of psychic activity to which the laws of higher nervous activity do not extend".[15] This is close to saying that psychic activity and higher nervous activity are one and the same activity. However, the first explicit statement on the identity of these two processes is found in the text-book *Psychology* published in 1956. There he writes:

> Being in its origin and in its functioning reflex activity of the brain or higher nervous activity, the psychic activity of man is, in its content, a reflection of objective reality.[16]

In each of the three works mentioned, Rubinštejn repeatedly insists that psychic and physiological phenomena are, nonetheless, not identical. "Psychic activity is characterized, not only by its physiological mechanisms, but also by its content, i.e., by the fact that it is a reflection, by the brain, of the material world".[17]

2. The Reflex Conception of the Psychic

As explained by Rubinštejn in *Being and Consciousness*, the conception of psychic activity as higher nervous activity includes the following affirmations.

a. Psychic Activity is Reflex Cerebral Activity

Psychic activity is reflex activity of the brain. This means that psychic activity follows the schema of the reflex. According to Rubinštejn, Sečenov's great contribution to psychology was to show that "all acts of conscious and unconscious life are, in their origin, essentially reflexes".[18] Psychic processes, therefore, begin with an impulse from the outer world, continue as central neural activity, and end as a response-reaction of the individual.[19] In consequence, psychic activity is a response of the organism – controlled by the brain – to the action of the external world.[20] It is, therefore, an active connection between the individual and his environment.

This last point is important since it helps to explain why Rubinštejn, in common with Soviet psychologists generally, is so insistent on the reflex character of psychic phenomena. This conception of the psychic makes the external world the ultimate source of psychic phenomena, thus forging another link between the ideal and the material.

> Psychic phenomena arise in the process of the interaction between the individual and the world which is accomplished with the help of the brain. Hence psychic processes, which are inseparably connected with the dynamic of neural processes, can never be isolated from the action of the outer world on man, or from his actions, his behaviour, or from his practical activity, which these psychic processes serve to regulate.[21]

The reflex conception of the psychic means, moreover, that psychic phenomena are primarily determined by the outer world, by what Rubinštejn calls the "conditions of life" (*uslovija žizni*).[22] However, as Rubinštejn so often repeats, this determination must be understood in terms of the dialectical-materialist theory of determinism; while the primary element in the determination of psychic phenomena is from outside the organism, its influence is refracted through its inner characteristics.

b. Psychic Activity is Higher Nervous Activity

Psychic activity and higher nervous activity do not form two processes, but are two aspects of the same process. The reflex activity of the cortex is both neurophysiological and psychic. It is one and the same reflex activity of the brain considered in different connections.[23]

Psychic activity is, therefore, subject to all the laws of neurodynamics. The image (*obraz*), e.g., is the product of a whole system of successively more perfect and mutually associating reflex acts, which, when fused into a whole, result in a picture of the thing in all its different sides and properties.[24] Rubinštejn compares the formation of a psychic image through the interconnection of reflex acts to the formation of a picture on a television screen, where the stream of electrons striking the screen unite to form an organized image. In the same way, the psychic image only exists in, and in dependence on, the reflex psychic activity of the brain.

Higher nervous activity, according to Rubinštejn, is "psychic activity materially understood".[25] This last remark is interesting as it shows that, for Rubinštejn, the psychic is, in some way, material. To the question,

'Is it true to say that the psychic is material?' Rubinštejn would be forced to answer, in contradiction to Kolbanovskij[26], 'Yes, it is true, if we consider psychic activity in its quality of higher nervous activity'. At the same time, Rubinštejn would add that, considered in relation to the outer world, psychic activity is ideal. Therefore, since psychic phenomena are always related to both the brain and to the outer world, they are both material and ideal.

As we have already frequently remarked, Rubinštejn insists that psychic phenomena cannot be reduced to physiological, neural activity. The reason he gives is that, in the course of the reflex activity of the brain, new, psychic phenomena arise which constitute a new object of investigation.[27] These phenomena not only obey the physiological laws of neurodynamics but new, specifically psychological laws. What then is the relationship between the laws of psychology and those of physiology, or higher nervous activity? In the first place, psychological laws are the effect of a "form of manifestation" (*forma projavlenija*)[28] of the laws of physiology, just as, e.g., the laws of physiology are themselves a 'form of manifestation' of the laws of biochemistry.

Though they are caused by the laws of physiology, these psychological laws remain *specific* laws: they express new specific qualities from which physiology abstracts. One and the same process is the object both of physiology and psychology, but physiology abstracts from certain aspects of the process which form the specific object of psychology.[29] Rubinštejn thus seems to make physiology a part of psychology. Psychology, as we remarked in Chapter V, is, for Rubinštejn, the general science of human activity. Neuro-physiology is that part of psychology which studies the physiological mechanisms of the one reflex human activity, particularly as they are controlled by the brain.

Rubinštejn's position resembles somewhat that of V. M. Arxipov, described in Chapter II. For Arxipov, the physiology of higher nervous activity studies human behaviour without considering the subjective factors connected with it, whereas psychology studies these subjective factors, as a particular form of higher nervous activity, using physiological methods. But where Arxipov makes psychology a branch of physiology, Rubinštejn, on the other hand, seems to make physiology a branch of psychology since, for Rubinštejn, psychology studies both the general laws of higher nervous activity and the specific laws of psychic phenomena, and uses both phys-

iological and specifically psychological methods, such as introspection.

In both *Being and Consciousness*[30] and *Principles*[31], Rubinštejn criticizes three theories on the relationship between physiological and psychological laws, current among Soviet psychologists.

The first theory states that the psychic and the physiological are two coordinated sides of a single process. This theory, he says, is not correct because it "conceals the hierarchy of primary and derived, of the basis and the form of its manifestation which expresses the essence of the relationship between the physiological and psychological characteristics of the reflex activity of the brain".[32] The error of this theory is not that it represents them as *sides* but that it incorrectly relates them "on equal terms" (*ravnopravno*), i.e., as *parallel* sides.

The second theory represents the physiological and the psychological as "two concomitant (*prjadopoložnye*) 'components' of psychology's characterization of psychic phenomena, so that physiology is limited to a partial (physiological) characterization of these phenomena". This view resembles Rubinštejn's own theory in so far as it makes physiology a part of psychology. However, Rubinštejn objects to it on the grounds that "the physiological characteristic of phenomena loses its effectiveness" and "psychic phenomena do not appear in their specific role as a new, original form of manifestation of physiological phenomena".[33] The difference between this theory and Rubinštejn's theory seems to be that the present theory, by relating physiological and psychic phenomena as concomitant components, does not express the relationship of general and specific which, in Rubinštejn's theory, essentially characterizes them.

According to the third theory which Rubinštejn criticizes, physiological and psychic phenomena are related as basis and super-structure. The laws of neurodynamics are, moreover, only valid for the physiological basis while psychic phenomena are governed by special psychological laws. In Rubinštejn's view, this theory is 'dualistic'. It separates the psychic from the physiological and only recognizes an outer relationship between them. Consequently psychic phenomena, again, do not appear as a 'form of manifestation' of the laws of physiology.

3. The Theory of Dynamic Localization

The third consequence of the reflex conception of psychic phenomena concerns the localization of psychic functions.[34]

According to Rubinštejn, the dominant conception of psychic localization before Pavlov, related psychic functions immediately to specific zones of the brain. To every psychic function corresponded a definite area of brain cells which was the immediate source of these functions. Rubinštejn objects to this conception on two grounds. In the first place, it made the psychic immediately and totally dependent on the inner structure of the brain, thus effectively separating it from the external world. Secondly, it was open to a dualistic interpretation; in relating psychic functions immediately to the anatomical structure of the brain it ignored the physiological activity of that organ. Psychic activity thus became a purely spiritual function, and the brain, in consequence, became the 'seat of the soul'.[35]

The conception of the psychic as higher nervous activity relates psychic phenomena immediately to the physiological functions in the brain. The material substrate of the psychic is not the anatomical structure of the brain alone, but the brain *together with* its activity. The Pavlovian theory of psychic localization is therefore a theory of 'dynamic localization'.

E. CONCLUSION AND CRITIQUE: THE THEORY OF CONSTITUTIVE RELATIONISM

In this and the preceding chapter we have been considering the two essential aspects or qualities which Rubinštejn assigns to psychic phenomena. Now that we have dealt with the details of Rubinštejn's synthesis, we must consider more closely the ontological foundation of that synthesis, namely the theory of constitutive relationism.

It has already been remarked that Rubinštejn gives no detailed account of the theory of constitutive relationism, but merely invokes it in two passages in his later works to explain how psychic phenomena can simultaneously be an ideal reflection and a physiological process. This is, to say the least of it, surprising as the theory is crucial to Rubinštejn's whole synthesis. Indeed, what makes his solution to the problem of psychic aspects stand out as superior to theories advanced by other Soviet writers is the fact that he attempts to establish it on a firm ontological foundation. Rubinštejn's reticence on this point is also disappointing since it makes a critical evaluation of his synthesis extremely difficult. Does his acceptance of the theory that psychic phenomena are

constituted by their relation to the material world indicate a profound commitment to a Hegelian type ontology, or does he seize on the theory merely because it provides a handy solution to a difficult problem? In short, is the theory of constitutive relationism merely a sort of philosophical *deus-ex-machina*, or does it represent a genuine conviction?

The fact that the theory does not feature in Rubinštejn's earlier works and the relatively insignificant place he accords it in his later writings, would seem to support the former hypothesis. But, there are sounder reasons for believing that Rubinštejn genuinely accepted it as an ontological theory with all its implications. The first is his obvious familiarity with the philosophy of Hegel, attested to by his doctoral thesis and by many passages in his later works. More important still is the fact that the theory of constitutive relationism perfectly accords with the Marxist-Leninist thesis of the dialectical unity of thing and relation.

However, the theory of constitutive relationism is open to a number of serious objections. In the first place, it is difficult to see how such a theory can be reconciled with a materialist ontology. It will be remembered that the thesis that all relations are internal and that they constitute the essences of things is one of the most commonly used arguments in favour of ontological idealism. Since no Marxist-Leninist would seriously contend that relations are material, i.e. in the sense of being matter or parts of matter, it would seem to follow that, if what we usually refer to as a thing is constituted by its relationships to other things which are themselves similarly constituted, then matter is at best a mere phenomenon or outward manifestation of a deeper ideal or spiritual reality.

Apart from the idealist implications of the theory of constitutive relations there is the further objection that such a theory poses serious semantic difficulties. As G. E. Moore has pointed out, to say that a thing is constituted by the nature of the system of relations to which it belongs is equivalent to saying that "it would not be what it is apart from its relations" and this is self-contradictory.[36] For to say that a thing would not be what it is apart from its relations, is to distinguish the thing from its relations in the very act of denying that such a distinction is possible.

Thirdly, even if the theory of constitutive relations were acceptable. and compatible with a materialist ontology it would still be questionable whether it serves the purpose intended by Rubinštejn, i.e. to explain how the same event can be both an ideal image and a physiological process.

According to Rubinštejn's theory, the psychic takes on the quality of ideal as opposed to material when related to the external world, and the quality of higher nervous activity in virtue of its relation to the brain. Consequently, it is the *term* to which it is related or referred which determines the quality of psychic events. But in each case the term of the relation is something *material.* Hence, it is difficult so see how the relationship of the psychic to one material thing – the brain – gives it the quality of a material, physiological process, while its relation to the *material* objects of the outer world gives it an ideal quality, i.e. that of ideal as opposed to material.

REFERENCES

[1] Rubinštejn, *Bytie i soznanie*, pp. 5f.
[2] *Ibid.*, p. 4.
[3] "Psixičeskie javlenija voznikajut i šuščestvujut liš' kak funkcija ili dejatel'nost' mozga. Suščestvovanie v kačestve processa, v kačestve dejatel'nosti, i imenno dejatel'nosti mozga, – takov pervičnyj sposob suščestvovanija vsego psixičeskogo." *Ibid.*
[4] Rubinštejn, *Principy*, p. 9.
[5] Rubinštejn, *Psixologija*, p. 12.
[6] *Ibid.*
[7] Rubinštejn, 'Dejatel'nost' i soznanie', p. 19.
[8] Rubinštejn, *Osnovy*, pp. 17–21.
[9] *Ibid.*, p. 19.
[10] *Ibid.*, pp. 147–148.
[11] "V svoem učenii ob uslovnyx refleksax Pavlov vpervye sozdal podlinuju fiziologiju kory bol'šix polušary golovnogo mozga, t.e., togo vsčego otdela central'noj nervnoj sistemy, funkciej kotorogo sobstvenno javljaetsja psixika." *Ibid.*, p. 147.
[12] *Naučnaja sessija*, p. 311.
[13] *Ibid.*, p. 312.
[14] Rubinštejn, 'Perestrojka', p. 199.
[15] *Ibid.*
[16] "Javljajas po svoemu proisxoždeniju i funkcionirovaniju reflektornoj dejatel'nost'ju mozga vyšej nervnoj dejatel'nost'ju, psixičeskaja dejatel'nost' čeloveka po svoemu soderžaniju est' otraženie ob"ektivnoj destvitel'nosti." Rubinštejn, *Psixologija*, p. 17.
[17] *Ibid.*, p. 16.
[18] *Ibid.*, p. 14.
[19] Cf. Rubinštejn, *Bytie i soznanie*, p. 181.
[20] *Ibid.*, p. 177.
[21] "... psixičeskie javlenija voznikajut v processe osuščestvljaemogo posredstvom mozga vzaimodejstvija individa s mirom; poétomu psixičeskie processy, neotdelmye ot dinamiki nervnyx processov, ne mogut byt' obobosoblmye ni ot vozdejstvija vnešnego mira čeloveka, ni ot ego dejstvij, postupkov, praktičeskoj dejatel'nosti, dlja reguljacii kotoroj oni služat." *Ibid.*
[22] *Ibid.*, p. 227.

[23] *Ibid.*, p. 226.
[24] *Ibid.*, p. 206.
[25] *Ibid.*, pp. 191ff.
[26] Cf. Chapter II, reference 81.
[27] "Analiz reflektornoj nervnoj dejatel'nosti mozga pokazyvaet, čto v xode étoj dejatel'nosti voznikajut novye – psixičeskie javlenija (oščuščenija, vosprijatija i.t.d.). Tem samym zakonomerno voznikaet novyj ob"ekt issledovanija i vstajut novye zadači ego izučenija – zadači psixologii." (The analysis of the reflex neural activity of the brain shows that, in the course of this activity new, psychic phenomena arise. At the same time a new object of investigation arises and with it the task of investigating it, i.e. the task of psychology.) *Ibid.*, p. 219.
[28] *Ibid.*, pp. 222ff.
[29] *Ibid.*, p. 221.
[30] *Ibid.*, pp. 224–225.
[31] Rubinštejn, *Principy*, pp. 31–33.
[32] *Ibid.*, p. 31.
[33] *Ibid.*, p. 32.
[34] Rubinštejn, *Bytie i soznanie*, pp. 195ff.
[35] *Ibid.*, p. 195.
[36] G. E. Moore, 'Relative and Absolute', in J. M. Baldwin (ed.), *Dictionary of Philosophy and Psychology*, vol. II, London 1902, pp. 443–446. Cf. also 'External and Internal Relations', *Philosophical Studies*, London 1922, pp. 276–309.

CONCLUSION

The purpose of this work has been to examine critically the philosophical foundations on which the edifice of Soviet psychological theory has been built. In Chapter I we investigated the sources of this theory; these were seen to be two in number: the philosophical principles of Marxism-Leninism and the scientific theory of the great Russian physiological psychologists, particularly of I. P. Pavlov. Certainly, Pavlov's theories can scarcely be called philosophical; but as we have tried to show, the insistence on his ideas seems to have been primarily motivated by philosophical considerations; that is to say, it has been considered as a means to the construction of psychological science on the basis of Marxist-Leninist philosophy. To this end Pavlov's teaching on higher nervous activity is supposed to provide a scientific elucidation of the general Marxist-Leninist thesis that psychic phenomena are a function of the brain.

In singling these out as the theoretical foundations of Soviet psychology, we have done no more than follow the statements of Soviet writers themselves, particularly as they appear in 'official' texts such as Encyclopaedias and Dictionaries. In doing so, however, we have left unanswered a very important question: are these the real foundations of Soviet psychological theory? It might in fact be truer to say that we have presupposed an answer to the question – namely that they are – by accepting at face value the statements of Soviet psychologists themselves. Yet more than one Western commentator has drawn attention to the fact that official statements on philosophy, particularly concerning its application to other fields of study, do not give an accurate picture of the true state of affairs. The official image of the Soviet scientist as one guided and inspired at every step by the principles of dialectical materialism is, to say the least of it, somewhat hard to accept.

However, a number of general conclusions seem to be justified. In the first place, it seems certain that the majority of these problems are taken seriously by Soviet psychologists themselves. It is the psychologists,

and not only the philosophers, who insist that the basic philosophical problems of psychology must be solved before experimental work can get under way. As Rubinštejn has expressed it: "... Experimental investigation is blind unless its course is illumined by theory. If theory is despised it always takes a cruel revenge; the abandonment of theory usually means the dominance of bad theory." Secondly, there are clear instances where research projects have been inspired by basic philosophical considerations. Rubinštejn's *O myslenii i putjax ego issledovanja* will serve as an example.

Our concern here has been to take as our starting-point what Soviet psychologists themselves claim to be the philosophical foundation of their science, and to subject it to a critical analysis. As we have seen, the strange combination of Pavlovism and Marxism-Leninism has been chosen because, it is claimed, they provide a solution to the basic philosophical problems of psychology. What then are these basic problems? For Rubinštejn – and in this he is representative of Soviet psychologists generally – they are two: the problem of the nature of the psyche, and that of its relation to the material world. Now these two problems have traditionally been considered the basic philosophical problems of psychology; from the point of view of the problematic, then, Soviet psychology has nothing new to add. In fact, Soviet psychology makes no claim to have discovered new problems, but rather to be able to give, on the basis of Marxism-Leninism, new and definitive answers to the old.

It must be admitted that as a philosophical basis for psychological theory, Marxism-Leninism has a number of points in its favour. In its general lines it is sufficiently articulated to give a balanced account of psychic events. In the first place, its general ontological principles demand a fundamental monistic conception of man. Soviet psychologists rightly reject dualism in the Cartesian sense, pointing out that it inevitably leads to insoluble problems. But this monism is not as absolute as it might at first sight appear. Soviet writers, indeed, see their conception as following from the general theory of materialistic monism – the theory of the material unity of the world – but the name 'materialistic monism' is misleading. The adoption of this term to describe Marxist-Leninist ontology can be traced back to the fundamental confusion – unfortunately still reigning in Soviet philosophy – concerning the so-called 'basic question of all philosophy'. In view of the fact that dialectical materialism recognizes the non-materiality of psychic events, 'moderate materialism' would

better describe it. It is the recognition that psychic events are not material that has prevented Marxism-Leninism's monist conception of man from degenerating into mechanism and reductionism.

One of the major achievements of Soviet philosophy in the nineteen-twenties was that it avoided the temptation of mechanism. As the philosophical and psychological literature of that period shows, the case for such a position was forcefully presented by its adherents both in the name of scientific progress and of Marxist orthodoxy. But the fact that Soviet psychologists finally turned their backs on behaviourism and adopted a less simplified conception of psychology was undoubtedly due to their faithfulness to the works of Marx, Engels, and Lenin. From the works of the 'Classics' Soviet philosophy inherited the principle of categorical pluralism, which has enabled it to moderate its ontological materialism.

If Marxist-Leninist orthodoxy had merely consisted in accepting the general philosophical principles of dialectical materialism, Soviet psychological theory might have developed along different lines. These principles are sufficiently broad and flexible to permit the psychological theory to develop without undue ideological constraint. Unfortunately, this has not been the case. The construction of psychology on the basis of Marxism-Leninism has meant not merely adherence to its principles but even to the very words used by the 'Classics', when referring to psychological subjects. This has acted as a brake on the normal development of psychological theory, has forced Soviet psychology into a theoretical straitjacket and produced a vast crop of purely exegetical problems. This situation was further aggravated in 1950 by the decree that Soviet psychology should be faithful not only to Marxism-Leninism but also to Pavlov. The adverse effects of this decree have been discussed in the body of this work, in particular in Chapter II. The most important of these would seem to be pseudo-problems to which the attempt to 'Pavlovize' psychology has given rise. These problems, as we have seen, arise from the incompatibility of Pavlov's basic reductionism with Marxism-Leninism's categorial pluralism. Again, the real heart of the matter would seem to lie not so much with Pavlov's theories on higher nervous activity as such but with the dogmatic insistence that they provide the only possible and adequate scientific explanation of psychic phenomena, that they perfectly harmonize with Marxist-Leninist principles and that they must be accepted *in toto*. No psychologist would seriously deny the

importance of I. P. Pavlov's pioneer investigations of higher nervous activity and their significance for the understanding of the nature of psychic activity. But not all aspects of Pavlov's work are of equal value, and one must at least distinguish between genuine scientific hypotheses and their philosophical interpretation. That Pavlov tended to interpret his findings in a reductionist spirit seems beyond doubt, but this in no way proves that this is the only possible interpretation. The tragedy of the Pavlov Conference was not that it forced Soviet psychologists to pay more attention to the physiological aspect of psychic activity or even that it forced them to study and use the methods of Pavlov; the really adverse effect of the Conference was that it raised Pavlov to the status of a 'Classic', whose ideas were quoted but never questioned. Consequently, Soviet psychologists were forced to devote an unwarranted amount of attention to mere exegetical problems which consisted for the most part of reconciling statements of Pavlov with statements of the 'Classics'.

Another unfortunate result of the Conference was the tendency in some quarters to reduce or at least subordinate psychology to physiology. Soviet psychologists, as we have seen, generally resisted this attempt but at the same time it continued, and in fact still continues, to affect psychological theory. In order to defend the autonomy of their science in relation to physiology, psychologists were forced to overemphasize the epistemological aspect of psychic phenomena. In insisting that as an ideal reflection of the material world they transcend the laws of physiology, they were able to defend psychology from the encroachment of physiology. But they did this at the expense of the affective side of human nature which, at least since 1950, has not received the attention it deserves.

The foregoing remarks, together with many of the criticisms of Soviet psychology made in the body of this work, might seem to paint an overly black picture of the state of psychological theory in the Soviet Union since 1950. This has certainly not been our intention. The period since 1950 has been one of intense experimental and theoretical activity. It cannot be denied that the Pavlov Conference provided a powerful impetus for psychological investigation. In the area of theory it forced Soviet psychologists to attempt to clarify the relationship between physiology and psychology, and even though many of the discussions of this problem have been vitiated by the dogmatism alluded to above, Soviet psychologists have come up with a number of profound and important insights

into the nature of psychic events which at times compare more than favourably with similar investigations taking place in Western Europe and the U.S.A. An interesting and valuable aspect of Soviet discussions of the brain-psyche problem is the insistence that it cannot be separated from the further problem of the relationship between psychic phenomena and the outer world; that they are in fact two aspects of the same problem, namely that of the place of psychic events in the material world. Unfortunately, the question of the relationship between psychic events and the outer world has been given an overly epistemological interpretation, but the basic insight remains valid.

Another important aspect of Soviet psychological theory is the concern for synthesis. One may, and in fact often does, disagree with the synthesis, but one cannot help but admire the genuine effort which Soviet writers make to take account of all aspects of the problem.

This is particularly characteristic of the work of S. L. Rubinštejn. The genius of Rubinštejn has been his ability to produce a systematic and more or less consistent formulation of psychological theory in terms of the officially accepted principles. In the aftermath of the philosophical and psychological discussions of the early nineteen-thirties, Rubinštejn produced the most acceptable and authoritative formulation of Soviet psychological theory based on the principle of the unity of consciousness and behaviour. Even though, after the Pavlov Conference, his ideas lost for a time the privileged position they had enjoyed in the preceding decade, his works have continued to exercise a considerable influence on the formation of Soviet psychological theory. Rubinštejn's revised system of psychology as it appears in *Being and Consciousness* and in *Principles* has been the most successful attempt to form a synthesis of Pavlovian physiology and Marxist-Leninist philosophy. His theory of 'psychic aspects', though open to serious objections, is the most plausible attempt to reconcile the ideal character of knowledge with the concept of the psychic as higher nervous activity. It is precisely Rubinštejn's power of synthesis coupled with his wide knowledge of philosophy and psychology that put him in the forefront of contemporary Soviet psychologists and endow his writings with a value which goes beyond the limits of Marxist-Leninist orthodoxy.

But the problems encountered by a scholar of Rubinštejn's stature in trying to reconcile the disparate elements which form the foundation of

Soviet psychology only serve to emphasize the basic disharmony which exists between them. It is, therefore, clear that the future development of Soviet psychology depends on the ability of Soviet psychologists to overcome the serious methodological defects which beset it. While a basic faithfulness to the principles of dialectical materialism poses no serious obstacle to its development, the slavish respect for the *ipsissima verba* of the 'Classics' is so obviously a brake on genuine philosophical speculation that Soviet scholars themselves must be acutely aware of the need for change. If they do not break out of this dogmatic strait-jacket, there is a serious danger that Soviet psychology may forfeit one of its most valuable characteristics: the close connection between philosophical and empirical research.

Above all it must reject the exaggerated Pavlovism foisted upon it in 1950. Fortunately, there are encouraging signs that new trends are under way. There are indications that something resembling a 'de-Pavlovization' of psychology is in progress, indicated by the more critical attitude to Pavlov evident in a number of recent works on psychology. This trend coupled with a growing interest in social psychology and in the relation between cybernetics and psychic phenomena indicate that Soviet psychology is breaking out of its narrow traditional framework and exploring new fields of research.

BOOKS AND ARTICLES BY S. L. RUBINŠTEJN

Eine Studie zum Problem der Methode. 1: *Absoluter Rationalismus* [A Study in the Problem of Method. 1: Absolute Rationalism], Teildruck von Sergei Rubinstein, Inaug. diss., Marburg 1914.

(Red.), *Odes'ka periodična presa – rokiv revoljucii ta gromadjanskoj vojni 1917–1921* [Odessa Periodical Press – The Years of Revolution and Civil War 1917–1921], Odessa 1929.

Sovremennoe sostojanie i očerdnye zadači naučnoj bibliografie v SSSR [The Present State and Immediate Tasks of Scientific Bibliography in the USSR], M. 1930.

'Problemy psixologii v trudax K. Marksa' [Problems of Psychology in the Works of K. Marx], *Sovetskaja psixotexnika*, **7** (1934), 3–20.

Osnovy psixologii [Fundamentals of Psychology], M. 1935.

'Neobixeviorizm Tol'mana' [Tolman's Neo-Behaviourism], *UZ LGPI*, **18** (1938), 115–130.

'K voprosu o stadijax nabljudenija' [On the Problem of the States of Attention], *UZ LGPI*, **18** (1939), 7–19.

'Naučno-issledovatel'skaja rabota kafedry psixologii Gosudarstvennogo pedagogičeskogo instituta imeni A. I. Gercena (Xronika)' [Scientific Research at the Kafedra for Psychology of the A. I. Gercen State Institute of Pedagogy – A Chronicle], *UZ LGPI*, **18** (1939), 141–144.

'Filosofskie korni eksperimental'noj psixologii' [The Philosophic Roots of Experimental Psychology], *UZ LGPI*, **34** (1940), 341–355.

'Mysli o psixologii' [Thoughts on Psychology], *UZ LGPI*, **34** (1940), 5–15.

Osnovy obščej psixologii [The Fundamentals of General Psychology], (IF), Izd. AN SSSR, M., 1940. (2ve izd.: 1946.)

'K psixologii reči' [On the Psychology of Speech], *UZ LGPI*, **34** (1941), 6–20.

'Neskol'ko zamečanij k psixologii slepogluxonemyx' [Some Remarks on Psychology of the Deaf and Blind], *UZ LGPI*, **35** (1941), 226–228.

'Psixologičeskaja koncepcija francuzskoj sociologičeskoj školy' [The Psy-

chological Conception of the French Sociological School], *UZ LGPI*, **35** (1941), 289–304.

'Psixologija i pedagogika' [Psychology and Pedagogy], *Sov. ped.*, **5** (1941), 41–47.

'Sovetskaja psixologija v godi velikij otečestvennoj vojni' [Soviet Psychology in the Years of the Great Patriotic War], *Pod znamenem marksizma*, 1943, 9–10, 45–62.

'Problema soznanija v svete dialektičeskogo materializma' [The Problem of Consciousness in the Light of Dialectical Materialism], *Izvestija AN SSSR. serija istorii i filosofij*, 1945,3, 145–158.

'Problema dejatel'nosti i soznanija v sisteme sovetskoj psixologii' [The Problem of Activity and Consciousness in the System of Soviet Psychology], *UZ MGU* – Psixologija, dviženie i dejatel'nost', 1945, 90, 3–21.

'Fiziologija i psixologija v naučnoj dejatel'nosti I. M. Sečenova' [Physiology and Psychology in the Scientific Work of I. M. Sečenov], (a) *Sov. ped.*, 1945, 11, 40–44; (b) *Fiziologičeskij žurnal SSSR im. Sečenova*, **32** (1946), 149–156.

'Reč' [Speech], *VF*, 1947,1, 420–427.

'Psixologija i problema vosstanovlenija funkcij posle ranenija' [Psychology and the Problem of the Restoration of Functions after Injury], *UZ MGU* – Psixologija, voprosy vosstanovlenija psixofiziologičeskix funkcij, **2** (1947), 5–8.

'Vystuplenija' [Address], *Naučnaja sessija posvjaščenaja problemam fiziologičeskogo učenija akademika I.P.Pavlova.* Stenografičeskij otčet, M., Izd. AN SSSR, 1950.

'Učenie I. P. Pavlova i nektorye voprosy perestrojki psixologii' [The Teachings of I. P. Pavlov and some Problems of the Reconstruction of Psychology], *VF*, 1952,5, 197–210.

'Učenie I. P. Pavlova i problemy psixologii' [The Teaching of I. P. Pavlov and Problems of Psychology], *Učenie I. P. Pavlova i filosofskie voprosy psixologii* [The Teachings of I. P. Pavlov and Philosophical Problems of Psychology], Ss., M., AN SSSR, 1952, pp. 194–228.

'Voprosy psixologičeskoj teorii' [Problems of Psychological Theory], *VP*, 1955,1, 6–18.

'Psixologičeskie vozzrenija I. M. Sečenova i sovetskaja psixologičeskaja nauka' [The Psychological Views of I. M. Sečenov and Soviet Psychological Science], (a) MGU jubil. nauč. sessija posvjaščen. 200 letiju uni-

versiteta (9–29 Maja, 1955g) [Moscow State University, Jubilee Scientific Session dedicated to the 200th Anniversary of the University, 9–29 May 1955], *Tezisy dokladov filosov. fak.*, Izd. MGU, 1955; (b) *VP*, 1955,5, 26; (c) *Materialy soveščanie po psixologii* [Proceedings of a Symposium on Psychology], Izd. Akademii pedagog. nauki RSFSR, M., 1957, 19–29; (d) *I. M. Sečenov i materialističeskaja psixologija* [I. M. Sečenov and Materialist Psychology], Ss., Izd. AN SSSR, M., 1957, 7–30.

'Ešče raz voprosy o psixologičeskoj teorii' [Further Problems of Psychological Theory], *VP*, 1956,2, 89.

'Predmet, zadači i metodi psixologii' [The Object, Tasks and Methods of Psychology], in *Psixologija* [Psychology], Učebnik pedagogičeskix institutov pod red. A. A. Smirnov, A. Leontev, S. L. Rubinštejn i B. M. Teplov, Akademija Pedagog. Nauki RSFSR, 1956, pp. 5–29.

Bytie i soznanie. O meste psixičeskogo vo vseobščej vzaimosvjazi javlenji material'nogo mira [Being and Consciousness. On the Place of the Psychic in the General Interconnection of the Phenomena of the Material World], (IF) Izd. AN SSSR, M., 1957.

'K voprosu o jazyke, reči i myšlenii' [On the Problem of Language, Speech and Thought], *Voprosy jazikoznanija*, 1957,2, 42–48.

'Filosofija i psixologija' [Philosophy and Psychology], *VF*, 1957,1, 114–127.

'Princip determinizma i psixologičeskaja teorija myšlenija' [The Principle of Determinism and the Psychological Theory of Thought], (a) *Psixologičeskaja nauka v SSSR* [Psychological Science in the USSR] (IP) Izd. Akademii pedagog. nauki RSFSR, M., 1959, t. 1, 315–356; (b) *VP*, 1957,5, 57.

Problema myšlenija i puti ee issledovanija [The Problem of Thought and the Paths of its Investigation], Tezisy dokladov na soveščanii po voprosam poznanija (20–22 Maja 1957), M. 1957.

'Voprosy psixologii myšlenija i princip determinizma' [Problems of the Psychology of Thinking and the Principle of Determinism], *VF*, 1957,5, 101–113.

O myšlenij i putjax ego issledovanija [On Thinking and the Paths of its Investigation], (IF), Izd. AN SSSR, M., 1958.

Principi i puti razvitija psixologii [Principles and Paths of Development of Psychology], (IF), Izd. AN SSSR, M., 1959.

Problema sposobnosti i principal'nye voprosy psixologičeskoj teorii [The Problem of Aptitude and the Principal Problems of Psychological Theory], Tezisy dokladov na I s'ezde obščestva psixologov, 1959, vyp. 3, M.

'Teoretičeskie voprosy psixologii i problema ličnosti' [Theoretical Problems of Psychology and the Problem of Personality], *VF*, 1959,3, 3–30.

(Red.), *Process myšlenija i zakonomernosti analiza, sinteza i obobščenija* [The Thinking Process and the Laws of Analysis, Synthesis, and Generalization], (IF) Izd. AN SSSR, M., 1960.

'Problema sposobnosti i voprosy psixologičeskoi teorii' [The Problem of Aptitude and Questions of Psychological Theory], *VP*, 1960,3, 3.

SELECT BIBLIOGRAPHY

SOVIET WORKS ON PSYCHOLOGY

Antonov, N. P.,

[1] 'Dialektičeskij materializm – teoretičeskaja osnova psixologii' [Dialectical Materialism is the Theoretical Foundation of Psychology], *VF*, 1953,1, 195–202.

[2] 'K voprosu o prirode psixičeskogo' [On the Question of the Nature of the Psychic], *FN*, 1965,4.

Arxipov, V. M., 'O material'nosti psixiki i predmete psixologii' [On the Materiality of the Psyche and the Object of Psychology], *Sov. Ped.*, 1957,7, 67–73.

Astratjan, E. A.,

[1] *Ivan Petrovič Pavlov. K desjatiletemiju so dnja smerti, 1936–1946* [Ivan Petrovič Pavlov. On the Tenth Anniversary of his Death, 1936–1946], M. 1946.

[2] 'Marksistsko-Leninskaja teorija otraženija i učenie I. P. Pavlova o vyššej nervnoj dejatel'nosti' [The Marxist-Leninist Theory of Reflection and I. P. Pavlov's Teaching on Higher Nervous Activity], *VF*, 1955,5, 31–42.

[3] 'Vyšše formy processa otraženija i učenie I. P. Pavlova o vyššej nervnoj dejatel'nosti' [The Higher Forms of the Process of Reflection and the Teaching of I. P. Pavlov on Higher Nervous Activity], *VF*, 1956,3, 98–115.

Bexterev, V. M., *Obščie osnovy refleksologii čeloveka* [General Principles of Human Reflexology], M. 1917.

'Bexterev, Vladimir Mixajlovič', *BSE*, **5** (1950), 124–126.

Bexterev, V. M., Dubrovskij, 'Dialektičeskij materializm i refleksologija' [Dialectical Materialism and Reflexology], *PZM*, 1926,7/8, 69–94.

Bojko, E. I., 'Nektorye voprosy perestrojki psixologii na osnove učenija I. P. Pavlova' [Some Questions Concerning the Reconstruction of Psychology on the Basis of the Teaching of I. P. Pavlov], *VF*, 1952,1, 162–168.

Bojko, E. I., Kolbanovskij, V. N., 'O nekotoryx nedostatkax v osveščenii filosofskix voprosov psixologii' [Concerning Certain Short-Comings in the Discussion of the Philosophical Questions of Psychology], *VF*, 1953,3, 180–186.

Bol'šunov, Ja. V., Sofroškin, V. G., 'Ob osveščenii problemy sootnošenija material'nogo i psixičeskogo v sovetskoj filosofskoj literature' [The Treatment of the Problem of the Interrelation of Material and Psychic in Soviet Philosophical Literature], *FN*, 1962,6, 101–105.

Dedov, K. M., 'K voprosu ob otnošenijax meždu psixologiej i fiziologiej vyššej nervnoj dejatel'nosti' [The Question of the Relation between Psychology and the Physiology of Higher Nervous Activity], *VF*, 1954,1, 216–218.

Filosofskie voprosy fiziologii vyššej nervnoj dejatel'nosti i psixologii [Philosophical Questions of the Physiology of Higher Nervous Activity and of Psychology], (IF) AN SSSR, M., 1963.

G. F., 'O sostojanii i zadačax psixologičeskoj nauki v SSSR' [On the Present State and Tasks of Psychological Science in the USSR], *PZM*, 1936,9, 87–99.

Gal'perin, SG. I., 'O edinstve fiziologičeskogo i psixičeskogo' [On the Unity of the Physiological and the Psychic], *VF*, 1958, 12, 124–132.

Georgiev, F. N.,

[1] 'Protiv bixeviorizm i reaktologija' [Against Behaviourism and Reactology], *PZM*, 1937,1, 163–169.

[2] 'V. I. Lenin o vzaimootnošenii psixičeskogo i fiziologičeskogo' [V. I. Lenin on the Interrelation of the Psychic and the Physiological], *FN*, 1959,1, 17–24.

Kal'sin, F. F., *Osnovnye voprosy teorii poznanija* [Basic Problems of Theory of Knowledge], Gorki 1957.

Kolbanovskij, V. N.,

[1] 'Materija i soznanie' [Matter and Consciousness], *PZM*, 1939,8, 39–61.

[2] 'Za marksistkoe osveščenie voprosov psixologii' [For a Marxist Treatment of the Questions of Psychology], *Bol'sevik*, 1948,17, 50–56.

[3] 'Pravil'no li utverždat', čto soznanie material'no?' [Is it True to Say that Consciousness is Material?], *VF*, 1954,4, 236–238.

Kornilov, K. N.,

[1] 'Sovremennaja psixologija i marksizm' [Contemporary Psychology and Marxism], Part 1, *PZM*, 1923,1, 41–50; Part 2 *PZM*, 1923,4/5, 86–114.

[2] 'Dialektičeskij metod v psixologii' [The Dialectical Method in Psychology], *PZM*, 1924,1, 107–113.

[3] 'Sovremennoe sostojanie psixologii v SSSR' [The Present State of Psychology in the USSR], *PZM*, 1927,10/11, 195–217.

[4] 'Psychology in the Light of Dialectical Materialism', in C. Murchison (ed.), *Psychologies of 1930*, Worcester, Mass., 1930, pp. 243–278.

Kozeva, T. A., 'Protiv projavlenija dualizma v fiziologii i psixologii' [Against the Manifestations of Dualism in Physiology and Psychology], *VF*, 1952,5, 248–249.

Lebedev, M. P., 'Materija i soznanie (o recedivax vul'garnogo materializma)' [Matter and Consciousness. On the Remnants of Vulgar Materialism], *VF*, 1956,5, 70–84.

Mal'cev, V. I., 'Ob ošibočnyx tendencijax v ponimanii psixičeskogo' [Erroneous Tendencies in the Understanding of the Psychic], *FN*, 1964,2, 116–125.

Mansurov, N. S., 'Za primenenie i razvitie učenija I. P. Pavlova v psixologii' [For the Application and Development of the Teaching of I. P. Pavlov in Psychology], *VF*, 1952,1, 153–161.

Medvedev, N. V.,

[1] 'K voprosu ob otražatel'noj rabote mozga' [On the Question of the Reflex Work of the Brain], *VF*, 1960,6, 105–119.

[2] 'Ešče raz o prirode psixičeskogo' [Further Considerations on the Nature of the Psychic], *FN*, 1964,2, 111–115.

Naučnaja sessija posvjaščennaja problemam fiziologičeskogo učenija akademika I. P. Pavlova. Stenografičeskij otčet [The Scientific Session on the Physiological Teaching of Academician I. P. Pavlov], M. 1950.

'O filosofskix voprosax psixologii (k itogam diskussii)' [On the Philosophical Questions of Psychology – A Summary of the Discussion], *VF*, 1954,4, 182–193.

Orlov, V. V., *Dialektičeskij materializm i psixofiziologičeskaja problema* [Dialectical Materialism and the Psycho-physical Problem], Perm 1960.

Pavlov, I. P., *Polnoe sobranie sočinenij* [Complete Collected Works], 6 t., M. 1951.

'Pavlov, Ivan Petrovič', *BSE*, **35** (1955), 238–244.

Psixologičeskaja nauka v SSSR [Psychological Science in the USSR], Ss. 2 t., M. 1959–1960.

Petrovskij, A. V.,
[1] 'Ob ob"ektivnom xaraktere psixologičeskix zakonomernostej' [The Objective Character of Psychological Laws], *VF*, 1953,3, 173–177.
[2] *Istorija sovetskoj psixologii* [History of Soviet Psychology], M. 1967.
Razmyslov, P. I., 'Vopros o predmete psixičeskogo v svete trudov Klassikov marksizma' [The Question of the Object of Psychology in the Light of the Works of the Classics of Marxism], *FN*, 1962,4, 101–105.
Redakcija PZM (peredovaja), 'Novi étap (k itogam II Vsesojuznoj konferencii marksistsko-leninskix naučno-issledovatel'skix učreždenij' [A New Stage. A Summary of the II All-Union Conference of Marxist-Leninist Research Institutes], *PZM*, 1929,1, 107–113.
Reznikov, L. O.,
[1] 'Teorija otraženija i "fiziologičeskij idealizm"' [The Theory of Reflection and 'Physiological Idealism'], *PZM*, 1938,3, 95–123.
[2] 'O roli čuvstvenyx vosprijatij v poznanii' [On the Role of Sense Perceptions in Knowledge], *PZM*, 1938,8, 28–42.
[3] 'Kritika knigi F. F. Kal'sina "Osnovnye voprosy teorii poznanija"' [Critique of F. F. Kal'sin's Book "Basic Questions of Theory of Knowledge"], *FN*, 1960,2, 173–180.
'Rezoljucii II Vsesojuznoj konferencii marksistsko-leninskix učreždenij' [Resolutions of the II All-Union Conference of Marxist-Leninist Research Institutes], *PZM*, 1929,5, 6–11.
Rozov, A. I., 'Soobraženija rjadovogo psixologa' [Reflections of a Simple Psychologist], *VF*, 1953,3, 177–179.
Sečenov, I. M., *Izbranye proizvedenija* [Selected Works], 2 t., M. 1952–1956.
'Sečenov, Ivan Mixajlovič', *BSE*, **38** (1955), 623–626.
Simonov, P. V., 'O termine "vyssaja nervnaja dejatel'nost' čeloveka"' [The Term "Higher Nervous Activity in Man"], *VF*, 1953,4, 213–215.
Sokolova, M. V., *Iz istorii russkoj psixologii* [From the History of Russian Psychology], M. 1961.
Stepanov, I. I., 'Dialektičeskoe ponimanie prirodi – mexanističeskoe ponimanie' [The Dialectical Conception of Nature is a Mechanistic Concept], *PZM*, 1925,3, 205–238.
Soroxova, E. V., *Problema soznanija v filosofii i estestvoznanii* [The Problem of Consciousness in Philosophy and Natural Science], M. 1961.
Teplov, B. M.,
[1] *Sovetskaja psixologičeskaja nauka za 30 let*. [Thirty Years of Soviet Psychological Science], M. 1947.
[2] 'Ob"ektivnij metod v psixologii' [The Objective Method in Psychology], *Sov. Ped.*, 1952,7, 66–86.
Xasxačix, F. I., *Materija i soznanie* [Matter and Consciousness], M. 1951.
Xromov, N. A., 'O naučnom ponimanii psixičeskoj ili vyssej nervnoj dejatel'nosti' [The Scientific Concept of Psychic or Higher Nervous Activity], *VF*, 1953,4, 216–218.

WORKS OF THE 'CLASSICS'

For the works of Marx, the *Marx Werke*, edited by Joachim Lieber, Peter Furth and Benedikt Kautsky, 6 Bde., Darmstadt 1960–1964, have been used where possible. For those works of Marx which have not yet appeared in this collection and for the works

of Engels, the edition K. Marx, F. Engels, *Werke*, 30 Bde., Berlin 1960–1964, has been used.

References to the works of Lenin are to the 5th edition of V. I. Lenin, *Polnoe sobranie sočinenij* [Complete Collected Works], 43 t., M. 1958–1964.

OTHER WORKS CONSULTED

Ananiev, B. G., 'Achievements of Soviet Psychologists', *Journal of General Psychology*, **38** (1948), 257–262.

Bauer, Raymond, A.,

[1] *The New Man in Soviet Psychology*, Cambridge, Mass., 1952.

[2] (ed.), *Some Views on Soviet Psychology*, New York 1962.

Bexterev, V. M., *General Principles of Human Reflexology*, London 1933.

Blakeley, Thomas J., *Soviet Theory of Knowledge*, Dordrecht, Holland, 1963.

Bocheński, Joseph, *Der Sowjetrussische dialektische Materialismus (Diamat)*, Bern 1960.

Bocheński, J., Niemeyer, G., *Handbook on Communism*, New York 1962.

Boravski, V. M., 'Psychology in the USSR', *Journal of General Psychology*, **2** (1929), 177–186.

Calvez, Jean-Yves, *La Pensée de Karl Marx*, Paris 1956.

Cottier, Georges, *L'athéisme du jeune Marx. Ses origines hégéliennes*, Paris 1959.

Descartes, René, *Oeuvres de Descartes*, publ. by Charles Adam and Paul Tannery, 12 vols., Paris 1897–1913.

Joravsky, David, *Soviet Marxism and Natural Science 1917–1932*, London 1961.

Lange, Friedrich Albert, *Geschichte des Materialismus und Kritik seiner Bedeutung in der Gegenwart*, 2 Bde., 9th ed., Leipzig 1914–1921.

London, Ivan D.,

[1] 'A Historical Survey of Psychology in the Soviet Union', *Psychological Bulletin*, **46** (July 1949), 241–277.

[2] 'Psychology in the USSR', *The American Journal of Psychology*, **64** (July 1951), 422–428.

[3] 'Contemporary Psychology in the Soviet Union', *Science*, **114** (Aug. 31st, 1951), 227–233.

[4] 'Reflections of a Soviet Psychologist', *Contemporary Psychology*, **3** (1960), 98–99.

McDougall, William, *Body and Mind – A History and Defence of Animism*, 7th ed., London 1928.

Murphy, Gardner, *Historical Introduction to Modern Psychology*, 5th ed., London 1949.

Pavlov, I. P.,

[1] *Lectures on Conditioned Reflexes. Twenty-Five Years of Objective Study of the Higher Nervous Activity (Behaviour) of Animals* (trans. by W. Horsley Gannt), 2 vols., London and New York 1963.

[2] *Conditioned Reflexes. An Investigation of the Physiological Activity of the Cerebral Cortex* (trans. by G. V. Anrep), New York 1960.

Razran, Gregory,

[1] 'Psychology in the USSR', *Journal of Philosophy*, **32** (Jan. 1935), 19–24.

[2] 'Current Psychological Theory in the USSR', *Psychological Bulletin*, **39** (1942), 445–446.

[3] 'Soviet Psychology since 1950', *Science*, **125** (1957), 1106–1113.

[4] 'Recent Russian Psychology: 1950–1956', *Contemporary Psychology*, **2** (1957), 93–100.

[5] 'Soviet Psychology and Physiology', *Science*, **128** (1958), 1187–1196.
Rubel, Maximilian, *Karl Marx. Essai de biographie intellectuelle*, Paris 1956.
Schniermann, A. L.,
[1] 'Present-Day Tendencies in Russian Psychology', *Journal of General Psychology*, 1928, 397–404.
[2] 'Bexterev's Reflexological School', in C. Murchison (ed.), *Psychologies of 1930*, Worcester, Mass., 1930.
Sechenov, I. M., *Selected Physiological and Psychological Works* (trans. by S. Belsky), M., undated.
Simon, Brian (ed.), *Psychology in the Soviet Union*, Stanford, Calif., 1957.
Venable, Vernon, *Human Nature: the Marxian View*, New York 1945.
Wetter, Gustav, *Dialectical Materialism. A Historical and Systematic Survey of Philosophy in the Soviet Union* (trans. by Peter Heath), London 1958.
Whitehead, Alfred N., *Science and Modern World*, Cambridge 1943.
Winn, Ralf,
[1] *Psychotherapy in the Soviet Union*, London 1960.
[2] *Soviet Psychology: A Symposium*, New York 1961.
Wolman, B. B., *Contemporary Theories and Systems in Psychology*, New York 1960.
Woodworth, Robert S., *Contemporary Schools of Psychology*, New York 1953.
Wortis, Joseph, *Soviet Psychiatry*, Baltimore, Md., 1950.

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PUBLICATIONS

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